

BEFORE THE
STATE WATER RESOURCES CONTROL BOARD

In the Matter of:)
)
)
Amendment to the Water Quality Control)
Plan for the San Francisco Bay/)
Sacramento-San Joaquin Delta Estuary:)
San Joaquin River Flows and Southern)
Delta Water Quality and on the Adequacy)
of the Supporting Recirculated Draft)
Substitute Environmental Document (SED))
_____)

PUBLIC HEARING

Joe Serna Jr. - CalEPA Headquarters Building
Byron Sher Auditorium
1001 I Street, Second Floor
Sacramento, CA 95814

Tuesday, January 3, 2017

9:00 a.m.

Reported by:
Peter Petty

APPEARANCES

Board Members Present:

Frances Spivy-Weber, Vice Chair
Dorene D'Adamo
Tam M. Doduc
Steven Moore

Staff Present:

Thomas Howard, Executive Director
Eric Oppenheimer, Chief Deputy Director
Will Anderson, Water Resources Control Engineer
Les Grober, Deputy Director of Water Rights
Tina Leahy, Senior Staff Counsel
Erin Mahaney, Senior Staff Counsel
Daniel Worth, Senior Environmental Scientist
Yuri Won, Senior Staff Counsel
Jeanine Townsend, Clerk to the Board
Katheryn Landau, Environmental Scientist

Public Comment:

Adam Gray, Assembly Member, 21st Assembly District
Ella Strain, Office of Assembly Member Jim Frazier, 11th
Assembly District
Gary Soiseth, Mayor, City of Turlock
Amy Bublak, Council Member, Turlock City Council
Larry Byrd, Modesto Irrigation District
Joe Alamo, Turlock Irrigation District
Ron Macedo, Turlock Irrigation District
Erin Foresman, U.S. Environmental Protection Agency
Jeff McLain, NOAA Fisheries, National Marine Fisheries
Service
Donald Ratcliff, U.S. Fish & Wildlife Service
Dean Marston, California Department of Fish & Wildlife
Abigail Warner, Self
Michael Frost, Self
Penny Frost, Self
Hap Dunning, Tuolumne River Trust
Susan Stern, Tuolumne River Trust
Bill Martin, Self
Grant Wilson, Earth Law Center
Hicham ElTal, Merced Irrigation District
Terry Erlewine, State Water Contractors
David Braun, RootsKeeper
Tom Schwertscharf, San Francisco Bay Area Water Committee

APPEARANCES (Cont.)

Public Comment: (Cont.)

Kenneth Gibson, Self
Carlos Martinez, City of East Palo Alto
Stephen DeBerry, Bronze Investments
Joe Sallaberry, Self
Elizabeth Lasensky, Self
Margo Schueler, Self
Alyce Silva, Denair Future Farmers of America (FFA)
Bryson Prock, Denair FFA
Mark Holderman, California Department of Water Resources
Mary Scruggs, California Department of Water Resources
Erika Lovejoy, Sustainable Conservation
Victoria Guinard, Turlock FFA
Jonathan Moules, Turlock FFA
David Aladjem, Downey Brand, LLP & Northern California
Water Association
Charlene Woodcock, Self
Joe Daly, Tuolumne River Trust
Larry Kolb, Self
Erik Young, North Bay Trout Unlimited
Peter Mangarella, John Muir East Bay Chapter, Trout
Unlimited
Alicia Thompson, Self
Nicole Sandkulla, Bay Area Water Supply and Conservation
Agency
Adrian Covert, Bay Area Council
Vance Ahlem, Hilmar Cheese Company
David Ahlem, Hilmar Cheese Company
Chenoa Urchison, Denair FFA
Mike Tietze, Jacobson, James & Associates
David Ragland, Self
Kirk Wilbur, California Cattlemen's Association
Darcie Luce, Friends of the San Francisco Estuary
Mark Gonzalves, Self
Barbara Barrigan-Parrilla, Restore the Delta
Tom Hicks, Self
Tyrone Jue, Office of San Francisco Mayor Ed Lee
Michael Carlin, San Francisco Public Utilities Commission
Ellen Levin, San Francisco Public Utilities Commission
John Herrick, South Delta Water Agency
Karen Wilson, Self
Barbara Daly, North Delta C.A.R.E.S.
Ashley McLeod, Self
Dr. Elizabeth Dougherty, Wholly H2O
Virginia Van Kuran, Self

APPEARANCES (Cont.)

Public Comment: (Cont.)

Frances W. Brewster, Santa Clara Valley Water District
Chuck Knutson, Self
Todd Sill, Self
Lacey Kiriakou, Merced County, Self
Maureen Martin, Contra Costa Water District
Mike Curry, Johnson Farms
Timothy P. Ruby, Del Monte Foods, Inc.
Rien Doornenbal, Self
John Borba, Self
Rebecca Franklin, Association of California Water
Agencies
Rachel Kaldor, Dairy Institute of California
Jon Rubin, San Luis & Delta-Mendota Water Authority
Michael Warburton, Public Trust Alliance
Paul Gardner, Self
Gail Srendanovic, Self
Charlotte Allen, Sierra Club California Water Committee
Crystal Sanders, Fish Revolution
Kelsey Linnett, Self
Rick Mazaira, Yosemite Outfitters Guide Service
Cindy Charles, Golden West Women Flyfishers
Sean O'Rourke, UC Davis
Jeanelle Steiner, Self
Aaron Orsini, Self
Gary Bobker, The Bay Institute
Tricia Geringer, Agricultural Council of California

INDEX

	<u>Page</u>
Introduction by Frances Spivy-Weber, Vice Chair	7
Staff Presentation	20
Les Grober, Deputy Director for Water Rights	
Public Comment	62
Panel One	85
Erin Foresman, USEPA	
Jeff McLain, NOAA Fisheries & National Marine Fisheries Service	
Donald Ratcliff, U.S. Fish & Wildlife Service	
Dean Marston, California Department of Fish & Wildlife	
Public Comment	143
Panel Two	178
Mark Holderman, California Department of Water Resources	
Mary Scruggs, California Department of Water Resources	
Public Comment	204
Panel Three	223
Nicole Sandkulla, Bay Area Water Supply and Conservation Agency	
Adrian Covert, Bay Area Council	
Public Comment	231
Panel Four	253
Tyrone Jue, Office of San Francisco Mayor Ed Lee	
Michael Carlin, San Francisco Public Utilities Commission	
Ellen Levin, San Francisco Public Utilities Commission	
Public Comment	264

INDEX (Cont.)

	<u>Page</u>
Panel Five	278
Maureen Martin, Contra Costa Water District	
Public Comment	288
Panel Six	300
Jon Rubin, San Luis & Delta-Mendota Water Authority	
Public Comment	305
Panel Seven	314
Kelsey Linnett, Self	
Rick Mazaira, Yosemite Outfitters Guide Service	
Cindy Charles, Golden West Women Flyfishers	
Sean O'Rourke, UC Davis	
Public Comment	325
Adjournment	357
Certificate of Reporter	358
Certificate of Transcriber	359

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

P R O C E E D I N G S

JANUARY 3, 2017 9:02 A.M.

VICE CHAIR SPIVY-WEBER: If you want to speak fill out a blue card. We have -- Felicia is not here today. She won't be here, actually all week, because her aunt who essentially raised her is on palliative care and so she's staying with her. Wow, that got quiet very fast.

Good morning, we are here to receive public comments concerning potential changes to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and supporting recirculated draft Substitute Environmental Document. Throughout the hearing, we will refer to these documents as the Plan Amendment, the Plan, and the SED.

I am Fran Spivy-Weber, Vice Chair of the State Water Resources Control Board. With me today on my left Board Member Dorene D'Adamo. To my right is Board Member Tam Doduc, who is also the owner of a new cat. (Laughter.) And to her right is Board Member Steven Moore. Chair Felicia Marcus, as I said, is dealing with a family emergency out of town and will be watching the hearing remotely. Hi. Other State Water Board staff are present at the front and back of the room to provide assistance as needed.

1 I have a number of general announcements to
2 make. Some are procedural announcements and some will
3 provide context to start us off before turning to staff
4 for an overview. And it's fairly long, so settle in. I
5 have to do it and we've done it at every hearing. And so
6 the procedural announcements are pretty straightforward.

7 First, look around and identify the exits
8 closest to you. If you hear an alarm we will evacuate
9 the room immediately. Please take your valuables and
10 your colleagues with you. Use the stairs, not the
11 elevators. It's hard to use the elevators here. And
12 exit to the relocation site across the street in Cesar
13 Chavez Park, except it's raining and so just find cover.
14 That is the place that we officially convene and would be
15 called back in once the emergency is over.

16 If you cannot use the stairs, you will be
17 directed to a protective area inside a stairwell and
18 someone will assist you.

19 Today's hearing date is being webcast and
20 recorded. When speaking, please use the microphone and
21 begin by stating your name and affiliation. Please get
22 close enough to the microphone that it is picked up, but
23 not so close as to generate static, and you'll hear
24 static.

25 A court reporter is present today, here he is,

1 and will prepare a transcript of the entire proceeding.
2 The transcript for the hearing will be posted on the
3 State Water Board's Bay-Delta Phase 1 website as soon as
4 possible. If you would like to receive the transcript
5 sooner, please make arrangements with the court reporting
6 service during one of the breaks, or after the hearing.

7 As a reminder, today is day five of five days
8 of hearings on the adequacy of the SED. Day one of the
9 hearing was held in Sacramento November 29, day --

10 (Brief colloquy aside.)

11 -- day two was held in Stockton on Friday, day
12 three was held in Merced on Monday, December 19. Day
13 four was held in Modesto on Tuesday, December the 20th.

14 Additionally, for planning purposes, please be
15 aware that the hearing day could be long since we want to
16 hear everyone's comments. We will take a short break in
17 the morning and a short break in the afternoon, or as
18 needed for the court reporter. We will also take a lunch
19 break, which may be less than an hour, but will be at
20 least 30 minutes to give you time to get food. We expect
21 to continue in the early evening or beyond, if necessary.

22 Finally and most important, please take a
23 moment and turn off or mute your cell phones. Even if
24 you think it's already off -- and we have some folks over
25 here who can help us with that -- please take a moment to

1 double check.

2 I know everyone is eager to get started, but
3 first I need to provide some background information on
4 how the hearing will be conducted and information
5 regarding the Order of Proceeding. Please bear with me
6 through this opening statement. The statement is going
7 to be read at the beginning of each day of the hearing.

8 This hearing is being held in accordance with
9 the September 15th, 2016 Notice of Filing and
10 Recirculation, Notice of Opportunity for Public Comment,
11 and Notice of Public Hearing on Amendment to the Water
12 Quality Control Plan for the San Francisco Bay/
13 Sacramento-San Joaquin Delta Estuary and supporting draft
14 revised Substitute Environmental Document, and subsequent
15 revised notices issued on October 7, 2016; October 18,
16 2016; December 9, 2016; and December 22nd, 2016.

17 This hearing fulfills requirements for receipt
18 of oral comments as described in the Board's regulations
19 in State and Federal law. The purpose of this hearing is
20 to provide the public an opportunity to comment on the
21 Plan Amendment and on the adequacy of the SED. The Board
22 will not take formal action on the Plan Amendment and SED
23 at the close of the hearing today. Rather, the Board
24 action will occur at a later noticed Board hearing,
25 during which time the Board may reopen the hearing to

1 allow for comments on additional potential revisions to
2 the Plan Amendments or as required by the Board's CEQA
3 regulations.

4 The final SED will likely be released in the
5 summer of 2017, depending on comments received. Please
6 ensure your comments today relate to the Plan Amendment
7 and the adequacy of the SED.

8 The September 15th, 2016 Notice required joint
9 presenters who would like more than three minutes to
10 present their comments to make their request by noon on
11 October 14, 2016, which was subsequently extended to noon
12 on November the 4th, 2016. Based on the requests
13 received, staff prepared a Draft Order of Proceedings
14 that was sent it to the Bay-Delta Notice email
15 distribution list on November 18, 2016. Additionally,
16 the Draft Order of Proceeding was posted on the Water
17 Board's Bay-Delta website. A revised Draft Order of
18 Proceedings dated December 6, 2016 was posted on the
19 Water Board's Bay-Delta website on December 14, 2016.

20 Now, there will be a test for those students
21 who are in the room on all of these dates, so I hope
22 you're listening carefully.

23 Accordingly, we will begin with any opening
24 comments that my fellow Board members would like to make.
25 We will then hear a presentation from staff. This staff

1 presentation provides background to the proposal and
2 clarifying information. Following the staff
3 presentation, we will hear from elected officials,
4 followed by public comment. As we allow, some groups
5 asked to present panel presentations. Rather than taking
6 them all first, as we did during the hearings in 2013, we
7 will alternate panels and a series of public commenters
8 to enable individual commenters to begin earlier in the
9 day. There will be no cross-examination.

10 Per the Hearing Notice participants are limited
11 to three minutes, unless otherwise allowed by the Draft
12 Order of Proceedings, which means I will count the
13 speaker cards and cut the time to two minutes or even one
14 minute if necessary to enable more speakers to speak
15 without going late into the evening, so folks can get
16 home. We have found that a focused comment on what you
17 want us to consider in reviewing the staff draft is
18 actually quite effective.

19 Speakers are limited to one opportunity to
20 speak during the course of the five-day hearing. We do
21 read your comments and they should be submitted by noon
22 on March 17, which is an extended submission date. If
23 you intend to speak, please submit a blue speaker card,
24 up here to my right. You can find one in the back of the
25 room.

1 As I noted, we allow a number of groups who
2 requested to speak as panels at each of the hearings.
3 They vary in number and approach. We have in many cases
4 shortened the time requested to enable us to hear from
5 more of the general public commenters, particularly in
6 the later hearings, which more people signed up for.

7 There has been one change in today's panel
8 presentations since the release of the December 6 second
9 revised Draft Order of Proceeding. One panel volunteered
10 to be more brief. That is good, keep that in mind, which
11 we appreciate. For today the joint participant groups
12 that requested to speak as a panel with additional time
13 are the following. A joint presentation by California
14 Department of Fish and Wildlife, U.S. Fish and Wildlife
15 Service, National Marine Fisheries Service and the USEPA.
16 They have requested 90 minutes. The California
17 Department of Water Resources has requested 15. The Bay
18 Area Water Supply and Conservation Agency, 10. The San
19 Francisco Public Utilities Commission, 10. The Bay Area
20 Council -- now these are the ones that get the extra
21 kudos -- 2 minutes, reduced from the original 10. Contra
22 Costa Water District, 10 minutes. San Luis and Delta-
23 Mendota Water Authority, 10 minutes. And a joint
24 presentation on recreational interests organized by Trout
25 Unlimited, 20 minutes.

1 I ask that one representative from each group
2 fill out a speaker card for your panel. And if you
3 haven't done this already now is the time to do it and
4 you give that to Jeanine. Put the names and affiliation
5 of each speaker. If you would like to follow the example
6 of the Bay Area Council and use less time than was agreed
7 upon please note your new estimated time on the card, and
8 know you will please the people sitting behind you.
9 Please be ready to present your comments when you are
10 called.

11 There are several points about this hearing
12 that need emphasis. First, please keep your comments
13 limited to the purpose of this hearing, which is to
14 comment on the Plan Amendment and the SED.

15 Second, we're required to respond to the oral
16 comments we receive during this hearing, however staff
17 will not respond to oral comments today. Board staff
18 will prepare written responses to comments on the Plan
19 Amendment and all significant environmental issues raised
20 orally and in writing prior to the Board's taking final
21 action in the next year.

22 Third, while I or the Board members may ask
23 staff for clarification or information in the Plan
24 Amendment and the SED, responses to your comments will
25 not occur during this hearing. We have had and will

1 continue to have opportunities to speak with people
2 outside the hearing and that is extremely valuable to us.
3 But in the interest of hearing what folks here have come
4 here to say, we can't have a conversation with each of
5 you as much as we would like to. And that's absolutely
6 true, just because we're quiet doesn't mean we agree or
7 disagree. We really do need to talk to each of you more.
8 We must also ensure that our decisions are based on the
9 record of this proceeding.

10 Fourth, because we're required to respond to
11 comments on the Plan Amendment and significant
12 environmental issues raised, please make the essence of
13 your comments clear to us, especially for those making
14 longer presentations and in your written comments. We
15 would appreciate you making a summary of the points you
16 have about the Plan Amendment and the adequacy of the SED
17 at the beginning or end of your presentation.

18 Finally, I realize that after all the
19 presentations are heard, some of you might feel the need
20 to respond to what others have said. We cannot provide
21 people an opportunity for rebuttal of these comments in
22 the hearing. If you have additional comments after your
23 turn to speak at this hearing, you may give us that
24 comment in writing by March 17, 2017 noon deadline, as
25 stated in the Fourth Revised Notice.

1 Now for a bit of context, we are here today to
2 hear input on a Substitute Environmental Document and
3 staff proposal for updating the Board's Bay-Delta Plan.
4 The staff proposal calls for updated flow requirements
5 for the San Joaquin River and its major tributaries and
6 updated salinity requirements for the southern Delta.

7 The Bay-Delta ecosystem is in trouble and has
8 been for some time now. The Lower San Joaquin River and
9 its tributaries are a key part of the Bay-Delta System.
10 South Delta salinity is also a vexing challenge, both for
11 those in the south Delta and for those who rely on
12 exports from the south Delta.

13 We are also in a separate process to deal with
14 the rest of the system including the Sacramento River and
15 the rest of the Delta. The Bay-Delta Plan lays out water
16 quality protections to ensure that various water uses
17 including agriculture, municipal use, fisheries,
18 hydropower, recreation and more are protected. Keep that
19 in mind. While all of you have a point of view as to
20 what you are here to say to us, and about the Plan, and
21 about the SED, remember that is it our job to ensure
22 various water uses including agriculture, municipal use,
23 fisheries, hydropower, recreation and more.

24 In establishing these objectives, the State
25 Water Board must consider and balance all beneficial uses

1 of water. Not pick one and discard the others.

2 We know that flow is a key factor for the
3 survival of fish like salmon. But the flow objectives
4 for the San Joaquin River have not been updated since
5 1995, not substantially updated since 1995. And since
6 that time, salmon and steelhead have declined. We also
7 know that there are other important factors affecting the
8 fishery, such as degraded habitat, high water
9 temperatures and predation.

10 As I mentioned, staff will provide a short
11 presentation to provide clarifying information regarding
12 the proposal today. This staff presentation is different
13 from the full staff presentation given on day one of the
14 hearing on November 29th in Sacramento and the shorter
15 version of the staff presentation given on days two,
16 three and four at the hearings in Stockton, Merced and
17 Modesto respectively. Both the full and abridged
18 versions of the staff presentation are available on the
19 Water Board's Bay-Delta Phase 1 website.

20 Today's presentation will respond to some of
21 the issues that have come up in prior hearings, to
22 clarify what the staff is proposing and what the proposal
23 is based on while not refuting every misconception voiced
24 during the hearings. There are some areas where we will
25 absolutely need to have some clarification that Board

1 members specifically asked the staff to address during
2 the course of this hearing. And that will occur today.

3 Staff have proposed to increase the proportion
4 of water left in the river. This is a proposal to share
5 the rivers, whether times are wet or dry. They conceive
6 it as a block of water that they hope groups will come
7 together to shape and use in the most effective ways
8 possible. They also have proposed an implementation
9 program that embraces adaptive management and will
10 accommodate stakeholder settlements that can provide even
11 greater benefits to the ecosystem than flow alone.

12 The proposed 30 to 50 percent range is less
13 than 60 percent recommended in the Board's 2010 Flow
14 Criteria Report, which was a science-based report only,
15 but still represents a significant increase over the
16 current conditions. Some have already argued that the
17 proposed range is too low to improve conditions for fish
18 adequately while others are adamant that it is far too
19 high and the impacts on our agricultural communities far
20 too great.

21 In many cases it is one set of water users
22 feeling aggrieved by other water users. Our challenge is
23 to navigate all of those strong feelings, look at the
24 facts, and try to find the best answer we can. Felicia
25 was quoted in the newspaper, I believe just recently,

1 saying, "There is no sweet spot in this decision," and I
2 think that's true.

3 Unfortunately, there is a lot of
4 misinformation about the staff proposal out there,
5 whether about its provisions or its intent, that have
6 distracted commenters away from commenting on what is
7 actually being proposed. This is unfortunate, because
8 these issues are hard enough to deal with based on the
9 real facts, let alone those that are imagined or
10 manufactured. I see and hear the pain in the comments we
11 have received already from both sides, much of it based
12 on misrepresentation of what staff is actually proposing.
13 Some of it based accurately on what is being proposed.
14 These complex challenging times and matters.

15 In the end, as I said, the Board's job is to
16 establish objectives that provide reasonable protection
17 of the fishery and to balance that with other uses
18 important to Californians, including agriculture and
19 municipal uses. We definitely want to provide an
20 opportunity for people to come together to propose better
21 ways to meet those objectives by working together to
22 restore habitat, manage the flows, deal with predation,
23 and other things. We can't order people to do that, but
24 we can accept alternative proposals. When people do that
25 well, we have a record of accepting good alternatives.

1 So please help us do that. Critiques can help, and we
2 are listening avidly to those, but what really helps even
3 more is to suggest how we can actually improve on the
4 proposal to meet everyone's needs better.

5 Our hearings in Sacramento, Stockton, Merced
6 and Modesto were lively, to say the least, informative,
7 definitely, and helpful, actually. Lots of disagreement,
8 but also lots of suggestions. Thank you for your
9 patience and for your attentiveness and for joining us
10 today on this rainy day.

11 First, we'll hear from any of my fellow Board
12 members who wish to speak. And after that we'll hear a
13 staff presentation from Water Divisions Rights staff, Les
14 Grober, the Deputy Director for Water Rights will lead
15 the staff presentation. But first, any comments?

16 MS. D'ADAMO: I normally give an opening
17 statement, but I'm going to hold off for the discussion
18 at the end.

19 VICE CHAIR SPIVY-WEBER: Okay.

20 Staff?

21 MR. GROBER: Good morning. Good morning, Vice
22 Chair Spivy-Weber, Board members and the public, thank
23 you all for coming here today. I'm joined today on my
24 left by Senior Staff Counsel Erin Mahaney, and on my
25 right Senior Environmental Scientist Dan Worth, and Water

1 Resources Control Engineer Will Anderson.

2 As Vice Chair Spivy-Weber said I have not the
3 usual presentation today, but rather a presentation that
4 addresses some of the comments, concerns, questions that
5 have come up. These are not to be construed as the
6 response to comments on this. We're going to be
7 providing a much more expansive response to comments and
8 give all of what we've heard both at the hearings and in
9 written comments more consideration. But this is rather
10 to address what we saw as some of the major comments,
11 concerns that came up during our workshop, hearing days,
12 things like that.

13 I'll spend a little bit more time on some of
14 these and a little bit less time on others. My goal,
15 there's about 50 slides here, is to get through in about
16 half an hour. So I will go through these quickly, so
17 that people can see just an introduction to the
18 information, because this like everything else that we've
19 presented will also be on our website. So you can dig
20 in, in a little bit more detail and look at the numbers.

21 So the first topic that has come up a number of
22 times is this --

23 VICE CHAIR SPIVY-WEBER: Before --

24 MR. GROBER: Yes?

25 VICE CHAIR SPIVY-WEBER: Before you go to the

1 first topic, will everyone who's standing who's not
2 supposed to be standing, sit. The Fire Marshall says we
3 have to have people sitting and there's tons of seats
4 right up here. It's a little bit in the front, but
5 there's some in the middle as well and the students won't
6 bite, I promise.

7 Thank you, go ahead.

8 MR. GROBER: And we also have an overflow room
9 if you want a room probably to yourself just next door in
10 Coastal. You can watch it on the web.

11 I'm sorry?

12 MS. TOWNSEND: I'm going to go sit over there.

13 MR. GROBER: No, you're not allowed.

14 So the first issue is carryover storage. And
15 this is a quote lifted from Appendix K, which is the
16 Program of Implementation language for the proposal. So
17 carryover storage is very much a part of the project.
18 That's the key take home, because we've heard questions,
19 concerns over, "Well, we see effects of the 40 percent of
20 unimpaired flow, but some of the effects are because of
21 this change carryover storage." And that is actually
22 true, you do see some effects of the carryover storage.

23 In order to explore what would happen if you
24 didn't have carryover storage, and it's important to look
25 at this, because this is a big perturbation of the

1 system. It's a big change in terms of how reservoirs
2 would be operated, because if more is left in the river
3 and you continue to try to draw on the reservoirs also to
4 maintain deliveries of surface water, there would be
5 rather large effects. So as part of the overall project,
6 because the goals are fish and wildlife protection, you
7 need to set some number that wasn't observed in the past,
8 some new number that would maintain the current condition
9 and also achieve the goals of the project.

10 So in order to show what would happen if you
11 didn't have these carryover requirements we just looked
12 at -- and this is not part of the SED, this is not one of
13 the alternatives -- but we looked at that 40 percent flow
14 objective and said, "Well, reduce it to lower carryover."
15 And what you see -- what happens -- and this is something
16 I'll spend a little bit more time on, because you're
17 going to see a few other exceedance plots here. By
18 necessity much of the staff presentation has been looking
19 at averages and looking at simple things, but there are a
20 lot of these exceedance plots in the report, because they
21 provide so much useful information.

22 And the way to look at this is that you see on
23 the left side it shows the annual diversions on the three
24 tributaries and the total quantity in terms of millions
25 of acre-feet. And it shows under baseline, that top

1 line, it shows that the diversions can be maintained for
2 much of the time except in about 20 percent of years that
3 do have under the current condition not as much water
4 available. It also then shows under the 40 percent
5 objective -- that's the lower green line -- how you're
6 more limited in terms of that water availability. So
7 there 50 percent of the time it starts dropping out to
8 something a fair bit lower than under baseline.

9 And as you would expect if you didn't have the
10 same carryover rules, if you didn't limit the quantity of
11 water that would be available for surface water, you
12 allowed reservoirs to run dry, then you would be able to
13 maintain water supply. One little interesting feature
14 though is that by running dry you see in the worst years
15 near that 100 percent it's actually even worse than under
16 the 40 percent, because there is simply no water left
17 because the reservoirs are dry.

18 This is far from an optimal condition as I'll
19 show you in a moment, but this is showing in a little bit
20 more detail, the effect in all years over average and the
21 different year types. And particularly in those dry and
22 critical years it means that if you didn't have the same
23 carryover requirement you would be able to have a bigger
24 water supply.

25 And as we've seen at some of the hearing days

1 was presented, we cannot exactly match, because all this
2 modeling is done in different way, but we can more
3 closely match some of what's been presented. And this is
4 just showing for one tributary and one reservoir, New
5 Melones, that you would have more frequently drawn down
6 end of September storage. And you would actually be
7 draining the reservoir it looks like there, in about ten
8 years.

9 And what does that do? Actually when I go back
10 if you look at that period just from '91 through '94 when
11 the reservoir is pretty much dry. Well, this is what
12 happens is you don't achieve the goals of the proposal,
13 because on the blue line you see what the temperatures
14 would be in the Stanislaus under the 40 percent
15 objective. And under the modified 40 percent or looking
16 at that different carryover you can see that you have
17 highly elevated temperatures, lethal temperatures much of
18 the time. You basically lose temperature control.

19 So another way to look at it for just looking
20 at the entire reach of the river, now from the right side
21 at the dam all the way downstream to the left side at
22 zero, to the confluence with the San Joaquin River. Blue
23 is showing at the 40 percent objective as we modeled it
24 and the dashed green is the modified 40 percent
25 objectives, much higher temperatures than under the

1 baseline condition.

2 So as you see I am going to do this rather
3 quickly. The importance of June flows, there's also been
4 the concern, a two-fold concern, why June flows? And
5 it's two-prong, because the expressed concern is that
6 there's not an importance or biological significance to
7 it. And by the way, it's a large quantity of water,
8 which helps to create some of that water supply effect.
9 It's true that it creates some of that water supply
10 effect in real time, but it is an important time period
11 biologically. The higher flows are important.

12 We frequently, in the past, have focused just
13 on what's the optimal time, that optimal April-May
14 period. But there are tails of that period that are
15 terribly important, especially if you consider the
16 importance of not just pushing the fish out of the
17 tributaries, but on through the Delta. Because that's
18 part of the migration pathway and the intent of the
19 proposal is to protect the fish and wildlife for the San
20 Joaquin River and through the Delta.

21 And what does that flow do in terms of
22 temperature? So since you're pushing the fish on through
23 the tributaries and through Vernalis into the Delta an
24 important metric to look at is what is a lethal
25 temperature that can occur at that time period? And you

1 can see that lethal temperatures of in the higher 70s
2 occur at that flow of about 3,100 CFS. Why is that
3 important?

4 This is -- you are familiar with some of these
5 I think we presented in the past, we've certainly
6 presented them as part of workshops -- this is excerpted
7 from one of the tables in the SED. And it shows that
8 that flow of 3,000 CFS is achieved about 41 percent of
9 the time under baseline. And under the 40 percent
10 alternative 30 percent more of the time, so not quite
11 doubling. But it goes from 40 to 70 percent of the time
12 you avoid those lethal temperatures, because you have
13 those higher flows.

14 MS. D'ADAMO: But that's assuming that those
15 flows are used in June?

16 MR. GROBER: That's correct. And that's
17 another element of this, is that it has that benefit and
18 one of the points that you saw in one of the intro slides
19 is this concern or concept or tension between is it the
20 unimpaired flow that kind of tracks the natural flow and
21 do you have this water available in that month? Or do
22 you use it as a block? And you can't do both those
23 things, but it's important. The take home is that it is
24 important in June, but even if not provided in June, if
25 specific year conditions are such that you have a limited

1 quantity of water if you have to consider everything
2 else. Again, because this is never about the optimal.
3 It's about the tradeoff, there is no sweet spot. But if
4 in the moment the real time operations provides
5 information to support, well as important as June is, we
6 need to use that limited quantity of water to provide it
7 in April and May. As you'll see in just a moment, the
8 slides will also show it's not a small block of water,
9 which cuts both ways. It's a water supply issue, but
10 it's also a block of water that can be used to the
11 benefit of fish and wildlife.

12 MS. D'ADAMO: I just want to make sure that we
13 realize though that in order to justify June, you have to
14 show these big temperature benefits. But the water will
15 unlikely be used in June, so it can't really be
16 justified. If it's not used in June then there's really
17 not much of a need for it, especially as we go through.
18 I know you have the next chart on the fish presence,
19 which I think what we need is a little more detail on the
20 rotary screw trap information and the amount of fish that
21 are present.

22 Maybe, not maybe but what I would like to see,
23 is these numbers in wet and normal years. So that we can
24 look at the benefits in June in wet years when you have
25 fish that are present compared to in dry and critically

1 dry years where you've got higher temperatures and
2 unlikely much in the way of fish presence. And then kind
3 of help us to hone in on when might June be important
4 versus when it would probably be a waste and unreasonable
5 use of water to be using it in June. Which at that point
6 I guess we'd be looking at flow shifting or something,
7 but not to justify the use of water in June.

8 MR. GROBER: Sure, that will always be that
9 tension, because if not provided in June, but if it
10 continues to be part of the proposal it will be a part of
11 the block of water that will make those earlier flows
12 even of greater benefit. Because as we've heard during
13 the hearings, the prior days of hearings, is that the 30
14 to 50 percent proposal isn't enough. So that June flow
15 allows that 30 to 50 percent to be bumped up to the 40 to
16 60 percent. Those more beneficial flows for fish and
17 wildlife and in April and May period.

18 The point is it's a quantity of water that is
19 useful both in the moment in June, but also as a block.
20 And there's that tension because this proposal is not
21 about the optimal. It's about the balance.

22 VICE CHAIR SPIVY-WEBER: But I think what the
23 request is that you do at least two graphs here. One for
24 different year types, for the dry and critically dry, as
25 well as for the wet.

1 MS. D'ADAMO: Right.

2 MR. GROBER: And then so hold that thought,

3 because it's --

4 VICE CHAIR SPIVY-WEBER: Okay.

5 MR. GROBER: -- not presented as part of this,

6 but you'll see because we present more than just

7 averages. And you can see some of the benefits or some

8 of the costs by different year types, but also by

9 different hydrologies.

10 MR. WORTH: May I say something?

11 MR. GROBER: And Dan has something.

12 MR. WORTH: So, part of the issue with rotary

13 screw trap data in June is we don't have complete sets of

14 data for the month of June. What often happens is the

15 river becomes too shallow and the flows are too low and

16 the traps become ineffective and they end up pulling the

17 traps early in June. So we have maybe rotary screw trap

18 data for the first couple weeks of June on average, but

19 the traps are often pulled early.

20 MS. D'ADAMO: I'm sorry, that is just not going

21 to work, okay? I've spent a lot of time on this issue

22 and you do have access to this information. And the

23 irrigation districts, I think can provide it. So I think

24 to get a complete picture of June we need to get the

25 rotary screw trap information. I know that it's

1 available for the Stan and the Tuolumne, I don't know
2 about the Merced. But I think we need to get the
3 information in all year types and if the traps have been
4 pulled then that should be taken into account.

5 But the information that I have, that I've
6 seen, that's been provided by the irrigation districts --
7 and I understood that they provide it to you as well --
8 so we can, I'm sure, work that out. But the information
9 that I have is that in dry and critically dry years we're
10 looking at less than 1 percent in June. And these
11 numbers may be less if you could go to the slide, for 13.
12 The numbers do, if you look at it in the aggregate, it
13 does look like there's some movement in June. But I
14 think if we parse it out and look at dry and critically
15 dry years versus especially the wet years, there does
16 seem to be much higher numbers.

17 So not only do we need to look at the different
18 year types, but I would ask that you get with the
19 irrigation districts to get the information and provide
20 it to us.

21 MR. WORTH: Yeah, we (indiscernible) --

22 MS. DODUC: I think, let me actually follow up
23 and ask a question based on that. I understand your
24 concern, Board Member D'Adamo, with respect to the dry
25 and critical years and the benefit of releases in June

1 based on current information that is available. But does
2 that current information take into account the possible
3 additional flows in the earlier months in those drier
4 years that could result in different conditions in terms
5 of the presence of what we're trying to protect?

6 MS. D'ADAMO: Well, I think that's a good
7 point, but if you look at the different year types the
8 wet years -- I think that there's -- I don't want to
9 opine on it.

10 MS. DODUC: I'm not asking --

11 MS. D'ADAMO: I really don't know, but the
12 numbers seem to go up in wet years. And so if we're
13 looking at higher movement in wet years when there's a
14 reduced impact on water supply that seems to be closer to
15 the sweet spot, but if we're looking at a year type where
16 the water supply impacts are much higher. So if you look
17 at dry and critically dry years the water supply impacts
18 are about 40 percent. Not 40 percent of unimpaired flow,
19 because I know there's a lot of confusion on that, but an
20 actual reduction in water supply by 38 percent I think is
21 the number.

22 So that's a big water supply hit, and so what
23 I'm looking for is comparing that to the fish presence in
24 those critically dry years.

25 MS. DODUC: I understand that and the challenge

1 I think we all have is it's almost always simpler to
2 estimate the economic costs associated with water supply
3 than the economic benefit associated with fisheries.
4 Well, with some exception. And so I acknowledge your
5 point, but I also don't want us to lose sight of the fact
6 that in considering the economic costs associated with
7 reduced supplies in these dry and critical years,
8 especially in the month of June, that we don't also lose
9 sight of the potential benefit of these additional flows
10 moving as a block in the earlier months of those years.

11 And unfortunately, and maybe we'll hear from
12 some of the fishery agencies, you know, a lot of this is,
13 yes, speculative on the benefit side. Which is our
14 challenge, because it is easier to get information from
15 the water agencies on the water supply impacts. But what
16 we're also trying to do is to provide as much flexibility
17 as possible to address water supply impact by also
18 helping to move some of the flows around as a block.
19 Perhaps to the earlier months in dry and critical years
20 that may result in better fishery conditions as well.

21 MS. D'ADAMO: Well, sure. But then what you're
22 getting is you're getting maybe some increased benefit in
23 that period of time where the fish are actually moving.
24 But if it it's in wet years anyways then you'd likely see
25 some of the benefits regardless.

1 MS. DODUC: But if it's in --

2 MS. D'ADAMO: But I'm not saying not --

3 MS. DODUC: -- dry or critical years then
4 perhaps you may be seeing additional benefits that are
5 not being reflected in the current data that are
6 currently being presented to us.

7 MS. D'ADAMO: That could be. I just would like
8 to see -- the rotary screw trap information is available,
9 so I'd like to see it. And I think that when we go to
10 weigh and balance rather than having numbers in the
11 aggregate it's best to see what it would be like in these
12 different year types. Because as we balance certainly we
13 would be looking at -- it's not just economic benefits of
14 the fisheries, but, you know, for public trust values
15 obviously.

16 But where there are higher costs I think we've
17 got to figure out a way to reduce those costs and an
18 obvious target would be June in dry and critically dry
19 years.

20 MR. GROBER: I'm going to provide --

21 MR. MOORE: (Overlapping) Oh, just thank you
22 for the discussion. I think it's a great discussion. I
23 would just caution using empirical data based on the
24 current conditions and operations to determine what's
25 possible. And I think that's what Board Member Doduc was

1 bringing up.

2 MS. DODUC: Thank you. That's much more
3 articulate than what I was able to express.

4 MR. MOORE: And empirically the way the
5 system's been operated for decades has not been to look
6 into the value of June flows in critically dry years.
7 But I absolutely acknowledge this is an area as we come
8 up with a balancing approach where we should make sure we
9 have flexibility to protect water supply.

10 And so, you know, this is --

11 MS. D'ADAMO: Sure, but --

12 MR. MOORE: -- a key point, but we don't have
13 enough empirical data on June in dry years with a fish-
14 based flow management regime to have rotary screw trap
15 data to reflect the benefits. I think that's key.

16 MS. D'ADAMO: I think that's fine, but I just
17 want to add one other point as well and that is
18 temperatures. You know, especially with climate change
19 we're going to be seeing warmer temperatures and I'm
20 concerned about moving things as a block of water is one
21 thing. But in order to get to what's the amount of water
22 that would be used to begin with if we're using a month
23 where we could even be seeing higher temperatures. And
24 this other chart that I think you already went through,
25 Les, on lethal water temperatures, we're looking at quite

1 high temperatures that are even higher than I think the
2 USEPA criteria numbers. So we need to be looking at that
3 as well. You know, what's a wise use of water?

4 MR. GROBER: I was going to type -- I'm not
5 going to add anything, because I was just going to
6 reiterate what Board Members Doduc and Moore were saying.
7 But some of that might fall out from some of the
8 additional slides, so in the interest of time I'm just
9 going to actually move forward and these couple of slides
10 were just to show that that June month can be important.
11 And as was already stated we have only very limited data
12 upon which to show, because we've so flatlined the system
13 that we only see it in the very wet years. We don't see
14 those middle years.

15 MS. D'ADAMO: But this is a wet year, the year
16 you show.

17 MR. GROBER: Yes. Yes, because -- well and
18 that's because of the nature of the operation during
19 above normal, below normal, those moderate years. That's
20 when the water's all being stored. We don't have the
21 data to show the higher flows, because it's all being
22 captured for water supply or mostly being captured for
23 water supply.

24 So this actually returns us to like the basic
25 concept that's showing that the proposal is tracking,

1 though it's a fraction of, it's the 40 percent of the
2 unimpaired flow. And this just shows in a very general
3 way how we flatlined that system, so we simply -- and
4 this is on average for '84 through 2009. But the
5 observed flows, the red, show that we just tend not to
6 see the signal at all, of those higher flows. So we have
7 very limited data upon which to base determinations.

8 And to quantify it this just shows that June
9 is, if you just looked at the raw percent of unimpaired
10 flow, it's roughly the 20, a little bit north of 20
11 percent of the unimpaired flow of the February through
12 June months. It's disproportionately important however
13 as a contribution to the unimpaired flow of the 40
14 percent, because Junes have historically been so low.
15 You've heard me refer in the past to, in some months
16 we're in the single digits. It's those June flows that
17 can be 5, 6 percent of unimpaired flow at time, because
18 that is when snowmelt is being captured and nothing is
19 being run through.

20 So we're moving -- June has those two effects.
21 It doesn't make it available to track the hydrograph into
22 the flow conditions to which fish are adapted, and to
23 which there is biological benefit. But it also takes
24 away a large block of the water you would have to use to
25 use that 40 percent. Because not to lose to sight that

1 40 percent is not the 60 percent that the scientific
2 basis report said is needed, and certainly not 100
3 percent. So by being able to shape flows you can
4 strategically try to achieve those higher percents.

5 So it's those two reasons why it's terribly
6 important.

7 MS. D'ADAMO: Can we stop here for just a
8 moment? If you could go back to slide 16, two slides,
9 okay. This part puzzles me and so I'm wanting to better
10 understand. You've got here June at about 20 percent and
11 that's monthly contributions to the requirement, so it's
12 my understanding --

13 MR. GROBER: Well, actually it's monthly. This
14 is just if you looked at unimpaired flows and just said
15 how much of it comes out in these different months?

16 MS. D'ADAMO: Right.

17 MR. GROBER: So it's not the contribution to
18 the -- well to the requirement, so much -- and it gets --
19 and I think anticipating your question, it's June is a
20 much bigger block of water in terms of the additional
21 block, because June flows are currently so low. They're
22 much lower than say April-May flows are, so even though
23 it's a smaller percent of the total that comes out of the
24 system it's a bigger quantity in terms of moving it up
25 from the current condition.

1 MS. D'ADAMO: Well, it's my understanding that
2 the June flows result in about 45 to 50 percent of the
3 water supply impacts. So this is the contribution to the
4 whole pie and --

5 MR. GROBER: Yes.

6 MS. D'ADAMO: -- if you could go back again?
7 So I'm not quite sure why, but I think in these other
8 months like February -- let's just take February, for
9 example. There's probably not a lot of water that's
10 being moved into storage in some of these other months.
11 And so the actual reflection in terms of again getting
12 back to -- I'm just trying to get information out, so
13 that we can better analyze June.

14 It's my understanding that the water supply
15 impacts are about 45 to 50 percent as a result of June.
16 And this chart doesn't really reflect that and maybe you
17 have a different chart that does?

18 MR. GROBER: Well, that's why I'll try to move
19 on to the next charts, because it's a math issue in that
20 because June flows are so very low now by including them
21 and moving those up, it does have a bigger water supply
22 effect than this.

23 MS. D'ADAMO: Okay.

24 MR. GROBER: And that's probably I'll just jump
25 to the next one, which probably shows it most clearly.

1 If you take from these the numbers, the average again
2 over all years, which is shown on the left side. If you
3 recall the long-term average surface water supply effect
4 is 293,000 acre-feet a year. Taking June out would
5 reduce it to about 220,000 acre-feet a year, so reduce it
6 by 73,000 acre-feet. So what is that? That's about --
7 it's not the 40 percent that you cited, but it's closer
8 to 30, 30 plus percent.

9 MS. D'ADAMO: Yeah, so this might be an area
10 where it would be helpful between now and the time you
11 come back to us, to get with the irrigation districts.
12 Because I'm getting different numbers and I just want to
13 make sure that we've got the right information.

14 MR. GROBER: Sure. Sure, and this is about --
15 I apologize that this is going a little bit over, but
16 it's just these are the important questions. There is
17 more to it here, but I think a take home based on what
18 you just said. There's different ways that this can be
19 modeled. You can come up with different numbers. But
20 these are based on our analysis, which also then includes
21 the carryover storage amounts, things like that.

22 If you start making different assumptions
23 you'll start getting much different numbers in terms of
24 total water supply effect, to make different assumptions
25 about groundwater and different things. So we try to

1 provide the flatter, here it is if you just change one
2 thing, with this. And then those were intended to be
3 kind of the longer time that I would spend on it, but
4 there's been this issue and concern. And a real concern
5 of multiple dry years.

6 Well, as you recall we showed some of these
7 exceedance plots. That's really the best way of showing
8 not just what happens on average, because we heard I
9 think a number of time averages don't tell the whole
10 story and staff definitely agrees with it.

11 First, before I even move to exceedance plots,
12 this is based on information that's in the SED and it's
13 comparing the -- and I'll just refer to the right most
14 column. We're showing it here for the three tributaries,
15 but it's showing the total estimated effect on surface
16 water supplies based on the 40 percent unimpaired flow.
17 So the baseline was a little over 2 million acre-feet a
18 year. And under the 40 percent it was that 293,000 acre-
19 feet less 1.775 million.

20 But a couple of other columns added there, the
21 next one is the baseline for the critical year average,
22 which is 1.6 million. And then most importantly under
23 the 40 percent alternative if you just looked at critical
24 years the average over critical years is 1 million acre-
25 feet. So it's half of what it is over the baseline

1 average of all years.

2 And for comparison, because it's been brought
3 up it's like that drought period from '87 through '92, so
4 when you have a series of dry years you would have this
5 water supply effect that happens each and every year in
6 that order of magnitude for a number of years. All of
7 that information is in the SED and was considered in the
8 SED. So we're certainly not hiding any water supply
9 effect. It's a big water supply effect and it's biggest
10 in those critically dry years.

11 MS. D'ADAMO: Again, though I think it would be
12 helpful -- what I had asked for was to have some
13 information on successive dry years. And so what this is
14 showing is averages.

15 MR. GROBER: Well, so this is -- the '87
16 through '92, those were fairly similar. There was one
17 maybe not critical year, but those are all dry years. So
18 those are five years in a row when they were at that
19 level.

20 MS. D'ADAMO: I think it would be helpful, I
21 think the information is available for each of the
22 tributaries. And the water supply information on
23 successive dry years. We have that under baseline
24 conditions and so what I -- as I recall what we had asked
25 for was to overlay the SED on top of a series of

1 critically dry years. So just looking at the most recent
2 drought for example. If we were to go back and pull up
3 say Modesto Irrigation District's water supply
4 allocations over the last five years, we'd be able to get
5 information on what percentage were they shorted. You
6 know, 20 percent, 40 percent et cetera. And then if we
7 overlay the SED on top of that what would it look like?

8 And the reason that -- I know this is getting
9 down in the weeds -- but again getting back especially to
10 a month of where we would not see big fish benefits, it's
11 important to know what the water supply picture would
12 look like over a period of successive dry years. So
13 instead of say a 40 percent reduction what would you get
14 in year one? Instead of a 40 percent what would it be,
15 like 50 percent? And carrying it over year after year
16 what would it look like? And we would see more frequent
17 years in which there is zero or near zero supplies.

18 And so looking at it in terms of averages it
19 sort of masks what would be going on out there in the
20 real world. And so especially if you have permanent
21 crops if you've got zero or near zero there's zero
22 options for you. So I think what we need to see is what
23 it would look like in actual practice as opposed to just
24 looking at the averages.

25 MR. GROBER: Yeah, and we have. And again it's

1 hard in a brief presentation, what's shown here is an
2 average over five years. And yes, it's still an average,
3 but it's because all the numbers were approximately that.
4 I don't have the numbers right in front of me, but there
5 are no zero years, which is I guess maybe that's the
6 important comment to make. Because if you're talking
7 about maintaining 40 percent of unimpaired flow in the
8 tributaries there is still some water supply available.
9 That means 60 percent is available during that time
10 period for other uses, so there is no zero supply.

11 And this is demonstrated at -- it's a
12 significant reduction that's going from over 2 million
13 acre-feet to just over 1 million acre-feet over a period
14 of five years. So that's a 50 percent reduction, but not
15 100 percent. But I hear your comment and we've shared
16 the full 82-year record of modeling, which shows all of
17 the variability and that's available. And we can perhaps
18 do more to show that time series to show what it is for
19 every year.

20 We did already -- as part of our analysis we
21 did the drought analysis, which compared that '87 through
22 '92 period with the most recent drought. And it's the
23 same magnitude of effect. I mean, there's some
24 differences, but it's about the same. We did that to
25 confirm that we've analyzed not just that 82-year record,

1 but also that takes into consideration the most recent
2 drought.

3 So this theme of the SED does have more than
4 averages. And I'm going to show a series of tables and
5 figures with those exceedance plots, because staff agrees
6 that to understand the effects of the proposal you need
7 to understand more than just the long-term average. So
8 we've looked at exceedance plots and tables for things
9 like what would it do in terms of increasing flows, river
10 flows. Also, reservoir storage, surface water supply
11 reductions and also cropping. This then feeds into the
12 economic analysis.

13 So this is one example that is difficult to
14 see, but I'm going to zoom in on in a moment, but it's an
15 example because we've also heard we have 3,000 pages or
16 3,000 plus pages of document. Well, a lot of it's filled
17 with tables like this, which this is an example of an
18 exceedance chart or table. On the left side it's showing
19 what's the minimum over that 82-year period of record
20 that we analyzed? What's the maximum, what's the
21 average, but then also what happens 10 percent of the
22 time, 20, 30. You know, so it gives you a sense for
23 what's happening, not in a graphical form. I'll show you
24 one of those in a moment.

25 But for example, well I'll zoom in first. So

1 I'm going to zoom in just to the -- that's just looking
2 now at the left most side of it, is looking at the
3 diversions. So if I look under the 40 percent what this
4 saying, and we've presented, so here's the average
5 surface water diversion. This is only looking at the
6 Tuolumne. We have it for each of the tributaries. And
7 it's saying on average it's a million or the average is
8 732,000 acre-feet per year under the 40 percent. And
9 it's 851 under baseline.

10 And what this also shows is it shows where
11 those deliveries of water start dropping off. So now
12 looking across at the 50 percent under baseline it's
13 still at 878, and under 40 percent it's still at 802.
14 But you can see under 40 percent it starts dropping off
15 dramatically, because in those drier years there's simply
16 less water available for diversion.

17 Looking at it another way, and again I know I'm
18 going through this quickly, but you can look at it at
19 your leisure afterwards. It will be posted. This is
20 showing the same information, but in terms of the deficit
21 of water supply.

22 For those that like a graphic more than a chart
23 of numbers this shows all of those 82 years of record.
24 In an exceedance plot it shows the baseline, which is the
25 top in the dark blue and it shows you can basically

1 maintain deliveries on the river even under baseline
2 conditions. There is less as it gets drier, but it stays
3 pretty stable between 1 million and 800,000 acre-feet.
4 But then starts dropping off in the 20 percent of wet
5 year and in particular in the 10 percent of the driest
6 years.

7 I say wet, in the driest years it starts
8 dropping off. It drops off more dramatically under the
9 20 percent unimpaired flow alternative although a drop
10 tracks it for the full 80 to maybe 90 percent of the
11 time. But in 10 percent of the years there is less water
12 available. And it drops off even more dramatically under
13 the 40 percent unimpaired flow and 60 percent of
14 unimpaired flow, so a lot more than averages.

15 And here, this is just lumping that same chart
16 that was just showing the water supply availability.
17 This is showing the instream flow storage and the
18 instream flow as a percent of unimpaired flow, so a lot
19 of information in the report. This same type of
20 probabilistic information or statistical information
21 rather is shown, is folded on through the economic
22 analysis and the SWAP model using the 82 years of record.

23 This is just the slide that we had presented in
24 our brief 20-minute overview where we come up with a
25 conclusion of an average annual decrease in economic

1 output of \$64 million, a 2.5 percent reduction. So staff
2 recognizes how unsatisfying these average numbers are,
3 which is why throughout the appendices -- and this just
4 one example shown from Chapter 11 -- this is showing the
5 exceedance curve of what happens to just one type of crop
6 in just one district, South San Joaquin Irrigation
7 District, for small acreage irrigation of dry beans,
8 processing tomatoes, rice and safflower.

9 And it shows that fully 90 plus percent of the
10 time there is full cropping of those crops and then it
11 drops off, you can see on the right side, to something
12 less during those driest years. But under the proposal
13 it starts dropping off at about 35 percent of the driest
14 years and over the 20 percent there is a very significant
15 drop off.

16 The report has plots for all different crops,
17 all different irrigation districts and it shows our work
18 in terms of what then goes into -- from the SWAP analysis
19 into IMPLAN. And this is then if you look at the overall
20 results rather than looking at that one average number in
21 the effect over all years -- this is again an exceedance
22 plot, so it shows baseline -- that total annual economic
23 output of \$2.6 million. That's maintained, but then
24 starts dropping off in 20 percent of years. As you can
25 see under Alternative 3, it starts dropping off in 50

1 percent of years with the biggest drop off again
2 happening in the 20 percent of years. So these are very
3 big effects that are shown already in the SED.

4 And then another way of looking at, and again a
5 lot of numbers in the table, but just to show you that
6 the types of information that are in the report -- but
7 you can also get that information and see how it's a much
8 larger effect for Alternative 3. Bigger than that \$64
9 million a year it means that that actually is
10 concentrated into the driest 30 percent of years. And it
11 can be upwards of \$235 million or higher in the 10
12 percent of years.

13 So all of these additional concepts really
14 require more information, but I'm going to go through it
15 rather quickly. Groundwater has been a concern that's
16 been expressed. We analyzed what would be the effects of
17 the proposal in terms of increases in groundwater
18 pumping. And that was determined by getting information
19 from the districts. Most of the districts provided the
20 information that we requested and we used that to
21 determine different levels of maximum groundwater
22 pumping. And we chose to use the lower rate, maximum
23 rates of groundwater pumping, based on 2009 rather than
24 2014, because we determined that those are more likely
25 less unsustainable for a longer period of time.

1 That being said, the question of exactly how
2 much groundwater pumping is going to happen in the
3 future, exactly how much recharge is going to happen in
4 the future when you're changing the system, and now that
5 we have SGMA; because there is all sorts of things that
6 can be brought to bear in terms of additional groundwater
7 recharge, things like that. For all those reasons to
8 come up with any other result than what we came up with
9 here in the SED starts becoming really quite speculative.
10 So we just based our information based on the observed
11 response to shortage of surface water that have occurred
12 in recent years.

13 MS. D'ADAMO: Based on baseline conditions?

14 MR. GROBER: That's correct.

15 MS. D'ADAMO: Not with SGMA, as you just said.

16 MR. GROBER: That's correct. So under SGMA the
17 determination there is that there will be a cumulative
18 additional impact that will have a greater impact on
19 water availability for cropping is the biggest impact.
20 As you would have to get sustainable in general even
21 though you could potentially offset that with some
22 greater recharge there would be bigger effects on water
23 supply and even further reduced water supply.

24 The proposed salinity objectives -- did I just
25 skip over -- two-fold reasons for reviewing the salinity

1 objective. One, is as I had provided in the introduction
2 in the past, is this is all about the reasonable
3 protection. It's both for the fish and wildlife, but
4 also for agriculture in the southern Delta. It's not
5 about the absolute protection, so the first component of
6 this is let's just revisit and do what is reasonably
7 required.

8 The second reason that we had to reassess is
9 that there was litigation involving the Water Quality
10 Control Plan and the application of the current numbers
11 could not be applied to NPDES dischargers, because the
12 court found that we did not do the necessary analyses.
13 That necessary analyses -- so I'll come back to that in a
14 moment.

15 So the first part I think that I've mentioned
16 is that the determination -- and it's based on the
17 science -- is that the salinity of the southern Delta is
18 suitable for all crops. And that you could increase it
19 between a range of about 0.9 to 1.1 and still be
20 protective of all crops normally grown in the southern
21 Delta.

22 This all gets very much more complicated very
23 quickly, because it has to do with leaching requirements
24 and how much rainfall you get. But even if you consider
25 all of that, that you might have some yield loss, because

1 that's ultimately what it's about -- how high can you
2 have the salinity without having yield loss? But even
3 with these numbers there might be some selective yield
4 loss of about 5 percent during low rainfall years when
5 you don't get the additional leaching that would be
6 provided by that cleaner water. That being said, the
7 proposal is expected to improve water quality in that
8 February through June period.

9 So since we had lost on the litigation we had
10 to reevaluate and come up with a new Program of
11 Implementation that considered the effects on NPDES
12 dischargers. And we also had to consider those Porter-
13 Cologne -- the Water Code Section 13241 factors -- which
14 we have now done that. We've considered the past,
15 present and future beneficial uses of water. We've
16 considered the economics and each of these other things.

17 SalSim, another one where I have actually a
18 number of slides, because it's been presented that -- you
19 know, the famous only additional 1,000 fish. So the lead
20 slide here is that in analyzing, in using SalSim. This
21 is a model that has been actually frankly before the
22 Board for a number of years. It's been modified,
23 improved for a number of years. But we recognized in
24 using it we found limitations, which we've shared with
25 the California Department of Fish and Wildlife staff,

1 which is why our lead and our description on the use of
2 SalSim had these words. We recognized early on that it
3 wasn't doing some of the things that were thought that it
4 would do.

5 And some of this is tied to some of the earlier
6 discussion. We simply have not had conditions in these
7 tributaries that have been of benefit to salmon. And
8 since SalSim is an empirical model that is based on the
9 current conditions, it hasn't been able to show how
10 things would improve. So we recognized that early on and
11 worked with CDFW. And we had this introduction showing
12 well we weren't then going to run the model and say --
13 and then hide it -- so we say, "Here's why SalSim is not
14 the best tool to use. Let's present what we've done,
15 what we've learned, and then move forward."

16 So some of the limitations of SalSim even
17 before finding the problems with it, is that it has
18 priming years where you don't necessarily see any of the
19 effect for the early years. It also has a hot-wired
20 ocean crash, so you can't recover from that, so it's not
21 illustrative of any other years, and many other
22 uncertainties with the model. So this chart shows those
23 priming years and the last five years reflecting the
24 ocean crash, so just to kind of just take those things
25 out.

1 And again, this isn't the rationalization to
2 say well here you can use SalSim. It's just showing our
3 work and saying well as Jay Lund would say, "You know,
4 not all models are wrong, some are useful." Well, some
5 are less useful than others, especially if you identify
6 problems with them. But one thing this does show is if
7 you take out the priming years, if you take out the ocean
8 crash, you start producing more salmon. It still begs
9 the question, is it enough? This isn't a numbers game.
10 Again, we didn't rely upon SalSim. What we relied upon
11 instead are the temperature benefits that we'd expect and
12 the floodplain benefits.

13 This slide just shows some of the other bullet
14 point reasons of why SalSim, what we discovered, is not
15 useful for the SED. And these are things that could
16 potentially be improved and you might hear some of that
17 from CDFW later today, but again this is only a model.
18 It's only one tool. It's not the tool that we relied
19 upon to quantify the benefits in the SED, which are very
20 real benefits having to do with temperature improvements
21 and floodplain inundation which would lead to greater
22 numbers, production of salmon, and resilience of salmon.

23 MS. D'ADAMO: I have some questions here if you
24 could go back? So I wish that you had the slides that
25 you had included from the PowerPoint that you provided in

1 Stockton, okay the 16th. So there are some additional
2 slides that you had that I spent some time going over on
3 this, if you're not relying on SalSim what are you
4 relying on, question.

5 And so on the temperature benefits you have a
6 slide, and maybe you could come back toward the end of
7 the day on this. But you've got slide 59 from the
8 previous PowerPoint and it has information on the
9 percentage, increase in percent time temperature criteria
10 is achieved. And so just pulling out under the 40
11 percent we have here an area that you pulled out, 39
12 percent increase.

13 And so what I was hoping to do is hone in on
14 some of the actual empirical data on temperature
15 benefits, because just digging through here I think we're
16 only talking about less than one degree. And so I would
17 like some additional information. If you're not relying
18 on SalSim, which it looks like with these adjustments
19 maybe there's a way to shed some additional light on it.
20 So instead of 1,100 fish it might be 7,600.

21 But you're saying that you're not actually
22 relying on SalSim. You're relying on these other tools
23 and so if you're relying on these other tools, I think it
24 would be helpful for us to have specific information on
25 what change would we see. Not a percentage change, but

1 what actual temperature benefits do you expect to see?
2 And if it's less than one degree it's kind of hard for me
3 to understand how that could produce much more than the
4 charts that you have adjusted showing perhaps as much as
5 7,600 fish. I just want to better understand it.

6 And then on floodplain benefits, we did receive
7 some useful information from some of the NGOs on
8 questioning the -- oh what was it -- the number of days.
9 You had a chart, I think at the first Board hearing that
10 we had, on the number of days that you would see an
11 increase in floodplain habitat. And so that's an area
12 that I'd like to better understand as well, because --
13 and I've raised this issue -- I was just on the Merced
14 River this weekend and took a look again and spent some
15 time just kind of walking along the river corridor. It's
16 hard to see how additional flow would really make much of
17 a benefit, on the Merced in particular.

18 And so I'm not questioning the need for
19 floodplain benefits. I'm just questioning that flow will
20 necessarily get us there. And I think this is why
21 settlements are so important, because we probably need to
22 have some actual restoration activities out in the
23 rivers. So not to go too far off track here, but I think
24 if we're going to rely -- if we're not going to rely on
25 SalSim, but we're going to rely on these other components

1 we're going to need some additional information on how
2 you get there.

3 MR. GROBER: Sure and since that was one of the
4 specific interests, that was a subject of one of the
5 workshops and so I would refer -- in response to your
6 question, but to others that might have the same question
7 -- we had more slides showing tables similar to some of
8 the ones I've shown before.

9 For that one having to do with June
10 temperatures showing, well here's not just the percent of
11 the time that you're achieving certain criteria, but
12 here's how much you're reducing temperatures at all
13 different locations in the river. So we have those
14 tables are in the Chapter 19 in the report. We have a
15 number of those and some of those in the PowerPoints from
16 the workshops that we and December 5th, December 12th.
17 Thank you.

18 The Merced River SAFE Plan, and I should leave
19 with this, is that it's certainly good to see proposals
20 that we -- you know, this is all about encouraging
21 settlement, but the details are important. And since as
22 we say, non-flow measure is important, but flow is
23 equally important -- the limited information that we have
24 we tried to discern and put in perspective what the SAFE
25 Plan might be including. Because there was some

1 reference also to FERC proposed plans. So these are just
2 comparing different flows for the February through June
3 period by year type.

4 The current baseline FERC numbers, and then
5 also what's referred to by those developed at the
6 Strawman Merced River Settlement Agreement, and the final
7 FERC recommendations; and then to compare them with the
8 Phase 1 40 percent unimpaired flow. It's shown on the
9 chart as a minimum, but it's based on the median values,
10 because of course the staff proposal varies by year type.
11 But if you take all the wet years or all the above normal
12 years you can come up with a median flow.

13 So as you can see there's a pretty big distance
14 between those flows, so there is -- we'll have to as we
15 move forward and that's a good place to be -- we'll have
16 to be evaluating what those flows are and see how the
17 whole proposal comes together.

18 There was also comments and concerns that we
19 didn't rely upon or describe some of the fish studies
20 that have been done on the Tuolumne including temperature
21 studies, predation, population model studies. There has
22 been a lot of concern, disagreement out there with the
23 fish agencies with those studies. So these are just the
24 slides just showing some of the concerns about the
25 different studies and that the recommendations didn't

1 include certain things.

2 So for temperature it didn't include the
3 effects on growth, disease, predation, behavioral
4 responses, predation. It didn't consider the effects of
5 the full range of conditions in year types. And the
6 population model didn't account for high water
7 temperatures, so some of the same failings as the SalSim
8 model.

9 This concept and the concern with the
10 unimpaired flow and block of water, I think we've perhaps
11 already covered it sufficiently in discussion, but it's
12 both those things. It's both important to get away from
13 this thought of optimizing, but it's also important as
14 providing a block of water, because the staff proposal is
15 certainly not a optimal for fish. It's a balance, it
16 considers all the other uses.

17 The flow recommendations, I think it had come
18 up as an issue of like well how does what we're proposing
19 compare to many of the other proposals? Since this has
20 come up even back in the last release of the SED, I'm
21 just showing an example from Chapter 3 of how the flow
22 proposal -- the Alternatives 2, 3 and 4, which are the
23 20, 40 and 60 percent of unimpaired flow -- how those
24 compare to different recommendations that we receive.

25 And this is just one example and it's comparing

1 it to The Bay Institute, the Natural Resources Defense
2 recommendations. As you can see their recommendation
3 kind of straddles between the Alternatives 3 and 4,
4 between that 40 and 60 percent.

5 Predation, the key point for this is that the
6 underlying conditions in the San Joaquin are because
7 they're so far from the optimal in terms of flow they
8 favor non-native species. There's less seasonality, the
9 variable conditions are gone, you're reducing the
10 resilience of fish, because temperatures are far less
11 than optimal, habitat is gone, so these fish are
12 migrating. And they're already weak and not -- failing
13 to thrive, so they are more prone to predation.

14 The conditions that salmon used to have to deal
15 with predators, including the improved temperatures,
16 improved floodplain but also those high flows and pulses,
17 the safety in numbers, those are all gone. So there's
18 not enough fish to satiate the predators. Other things
19 associated with high flows that are of benefit of salmon,
20 not just in the San Joaquin but in the San Joaquin River
21 and the Delta.

22 And here's an example to show why it's
23 important to show all the data, not just some of the
24 data. This is a predation study that I had been referred
25 to in one of the previous hearings, and it showed very

1 little survival. But that was just looking in the yellow
2 and the green. It was just looking at relatively low
3 flow conditions. You can see at 482 and 495 CFS, the
4 average flow, when it's higher you can see predation.
5 That the number that survive is much higher as a total
6 that is released, so you have to look at the full data
7 set.

8 And then finally closing with the concern,
9 which staff shares over disadvantaged communities. There
10 was a discussion recognizing that there's the long-
11 standing -- not just as a result of this program -- but
12 there's long-standing issues in the San Joaquin and lack
13 of access to clean drinking water that affects
14 disadvantaged communities. And there's an
15 acknowledgement that requiring the additional instream
16 flow would exacerbate this ongoing problem.

17 So we also discussed that in part of
18 implementing this, we would provide technical assistance
19 and also direct consolidations for drinking water
20 supplies where appropriate. And do other things to
21 address the concerns and effects.

22 And with that sorry that I ran long, but
23 hopefully we had a discussion over it as well, was
24 helpful, and I and staff are available for additional
25 questions.

1 VICE CHAIR SPIVY-WEBER: Thank you very much.

2 And for those of you who do not know, this is

3 the only opportunity that all of us can talk to each

4 other. We have to do it in a publicly noticed meeting

5 and so the questions that are coming from the dais are

6 very informative, very good.

7 In terms of elected officials, I only -- how

8 many more do we -- have two, just two?

9 MS. LANDAU: There's five.

10 VICE CHAIR SPIVY-WEBER: Five, okay. What I'd

11 like to do is take a break after the elected officials

12 have spoken. I know Larry Byrd asked for additional time

13 and he is an elected official. If he could do it after

14 the break that would be very helpful, because he wanted a

15 little bit of extra time. So it would be four:

16 Assemblyman Adam Gray, who's here I believe; Ella Strain

17 who is here for Assembly Member Jim Frazier; Gary

18 Soiseth, who's with the City of Turlock; and Amy Bublak,

19 who's with the City of Turlock.

20 So Adam Gray?

21 (Colloquy re: time to speak.)

22 VICE CHAIR SPIVY-WEBER: Well, three minutes,

23 but we'll have -- you know, we'll be accommodating.

24 ASSEMBLY MEMBER GRAY: Thank you. Can you hear

25 me now?

1 VICE CHAIR SPIVY-WEBER: Yes.

2 ASSEMBLY MEMBER GRAY: Thank you members, for
3 providing some time for comment. In the interest of time
4 I actually have a letter that I'm going to submit to the
5 Board. You know, frankly from my perspective the report
6 is so riddled with inaccuracies and misinformation and
7 flawed analysis that we put those in the longer letter.
8 And I'm going to make some briefer comments right now,
9 more general in their nature.

10 These hearings have offered a very public forum
11 to display the enormous disconnect that exists between
12 protecting the San Joaquin Valley water supplies,
13 environmental goals for fish populations, and what your
14 Plan actually proposes. Environmental groups criticized
15 this Plan at the first Sacramento hearing, for failing to
16 demonstrate any legitimate benefit to salmon populations.
17 And asked that the Plan incorporate non-flow measures,
18 which they believe ecological goals cannot be achieved.

19 Agricultural interests have leveled the same
20 criticism. That without non-flow measures, the proposal
21 before you today simply wastes precious water without any
22 discernible benefit.

23 You also heard from irrigation districts as
24 well as local city and county officials, who explained in
25 great detail that the proposal will jeopardize the

1 drinking water supplies of one-and-a-half million people
2 in one of the most disadvantaged areas of the state.
3 Where one in four live in poverty, where unemployment
4 consistently remains five points above the rest of the
5 state. In fact, the area put on the chopping block faces
6 significant challenges beyond poverty. Challenges like
7 being the largest contiguous health professional shortage
8 area in California. Where life expectancy and
9 educational attainment is among the lowest in the state,
10 while violent crime rates, air pollution, and premature
11 deaths are among the highest.

12 We disagree about the number of job losses this
13 Plan will cause as well as how severe the economic
14 impacts will be. Although I must point out that while
15 SED predicts removing 300,000 acre-feet of water from
16 northern San Joaquin Valley will cost just \$68 million,
17 your own economists working on the Delta Tunnels Project
18 predict every 100,000 acre-feet of water has a total
19 economic value of \$1.4 billion.

20 The only source of consistent agreement
21 throughout these hearings has been that all parties
22 prefer the more immediate and enduring option of reaching
23 voluntary settlements. Unfortunately, because of your
24 staff's refusal to engage in discussions during the
25 drafting of this report, failure to respond to comments

1 submitted on the prior version, and the disingenuous
2 manipulation of the facts contained in the latest
3 proposal there is a strong and justified belief that you
4 and your staff have not acted in good faith. The
5 obligation to restore confidence that legitimate
6 settlements can be reached to negotiations is squarely on
7 your shoulders today.

8 There are far too many flaws contained in the
9 current report for it to be considered a viable starting
10 point. My recommendation is that you call a mulligan,
11 send this report back to your staff, and with a directive
12 to start over. Quite frankly, the only other option is
13 to spend years bitterly fighting this out in court.

14 Thank you for your time.

15 VICE CHAIR SPIVY-WEBER: Thank you.

16 Ella Strain, and can the other two line up
17 behind her, so that we can move quickly?

18 MS. STRAIN: Thank you, Board members for
19 having this hearing today. My name is Ella Strain and
20 I'm here on behalf of Assembly Member Jim Frazier who
21 represents the 11th Assembly District and he wanted me to
22 make the following comments.

23 The communities in the 11th Assembly District
24 and surrounding regions depend upon a healthy Delta
25 ecosystem. The Board has taken on a massive

1 responsibility by updating this Plan and Assembly Member
2 Frazier would like to extend his sincerest appreciation
3 for the time they have allowed for public comment. It is
4 important that everyone feels as though they have
5 reasonable time to voice their thoughts and opinions.

6 A few concerns have come up when reviewing
7 Phase 1 regarding the proposed flow objectives and
8 southern Delta salinity standards. The proposed 30 to 50
9 percent increase in flows in the current Phase 1 SED is
10 alarming, since as has previously been discovered through
11 the best available science, the higher flows are needed
12 in order to save the native species that are rapidly
13 declining in the Delta.

14 During this process the Board should keep in
15 mind the fact that these important fish populations, and
16 the Delta's environment as a whole, have been disregarded
17 in the past in order to benefit other areas throughout
18 California. It is understandable that the Board must
19 make their decision based on a careful balancing act
20 between the competing needs from different regions.
21 However, Assembly Member Frazier urges the Board to
22 support water quality standards that are representative
23 of best efforts to support the salmon population and
24 other native fish that are currently suffering from
25 previous decisions that supported water conveyance over

1 ecological sustainability in the Delta.

2 There are also apprehensions about the
3 potential for the current proposal to weaken salinity
4 standards in the Delta. The Delta communities rely on
5 strong salinity standards in order to ensure a level of
6 water quality that will not devastate the agricultural
7 region, compromise rival drinking water, and destroy
8 fisheries in this area. The Board should not take action
9 that will put in place a system that will relaxes these
10 standards to benefit agricultural businesses in the
11 Central Valley while leaving the burden on the
12 agricultural community in the Delta. Hurting this
13 industry will inevitably lead to a loss of jobs in the
14 Delta region.

15 Public health is also at stake here. The Board
16 should consider the direct impacts on the residents of
17 the Delta communities and their water supply that would
18 result from the weakening of salinity standards in the
19 southern Delta. This is a major issue that cannot be
20 ignored when considering the proposed revisions.

21 Thank you again for taking the time to listen
22 to the public's comments and concerns. Our office looks
23 forward to working with you guys in the future on these
24 important issues. Thank you.

25 VICE CHAIR SPIVY-WEBER: Thank you very much.

1 Yes, Mr. Mayor.

2 MAYOR SOISETH: Good morning. My name is Gary
3 Soiseth and I am here today not only as the Mayor of
4 Turlock, and an employee of the Modesto Irrigation
5 District, but most importantly as a proud third
6 generation almond farmer.

7 As the leader of a city of 72,000 people in the
8 middle of the Central Valley we're an agriculturally-
9 based economy with over 3,000 jobs directly related to
10 food processing from turkeys to milk to almonds to
11 cheese. We created this economy to play to our region's
12 strengths, which is why water is fundamentally important
13 to our ability to maintain and create jobs in my town.

14 When I ran for Mayor two years ago, I focused
15 on one major topic, water reliability. We started with
16 23 potable wells, since I've been Mayor we've lost 4 due
17 to unsafe spikes in arsenic and nitrate levels.

18 As a city and farming community we have
19 conserved and conserved and conserved some more. But we
20 can't conserve our way out of a drought and we can't
21 conserve our way to new sources of drinking water. So a
22 year ago we worked with the Turlock Irrigation District
23 to acquire 30,000 acre-feet of Tuolumne River water
24 annually for 50 years. This was no small task. The
25 agreement had been an idea for over 30 years, but Turlock

1 and Ceres were finally on a course to drinking water
2 reliability. A reliability that is now threatened by the
3 SED.

4 With the SED you have decimated our ability to
5 provide for ourselves and you demand too much from our
6 community. Turlock has met and exceeded every standard
7 you have set for us. You've required us to stop
8 discharging our tertiary treated wastewater into the
9 river, so we embarked on a \$35 million recycled water
10 project to use the water on our farms.

11 You've required meters on our homes, so we
12 installed them early. And then you use this already low
13 level of water use as a baseline to cut even more for
14 drought conservation.

15 You required us to meet stiff conservation
16 targets. We have met them and will continue to do so.

17 And now you're requiring us to meet the
18 groundwater standards set up by SGMA, which led us to
19 embark on a surfacewater project to gain another source
20 of water for our citizens. A project that can cost
21 upwards of \$200 million and will raise water rates to our
22 already financially-strapped towns.

23 These are not easy targets to reach. They
24 require steep investments. They require political will
25 and they stretch the already fragile socioeconomic fabric

1 of Stanislaus County.

2 Let me put my community's sacrifice into
3 perspective. One of the reasons I chose to speak here in
4 Sacramento was because it can be easy to forget the faces
5 of those that you met in Stockton, Modesto and Merced who
6 will directly be impacted by your decisions.

7 Once such person is an 88-year-old Turlock
8 farmer named Viola Brown. She has farmed the same 20
9 acres of ground since her husband returned from World War
10 II and purchased it with his GI bill. They grew hay,
11 wheat and sweet potatoes. And then they heard about a
12 Cooperative named Blue Diamond who was encouraging people
13 to plant orchards, specifically almonds.

14 Planting a permanent crop, a high-value crop in
15 the 1950s without a large market was a huge risk. The
16 orchard requires significant upfront costs and took four
17 years to start producing. And when it did, the price per
18 pound was weak. To make the farm payments she and her
19 husband continued their full-time jobs at the nearby
20 peach canneries and poultry slaughterhouses. Farming
21 their acreage at night and never expanding past their
22 original 20 acres, much like the majority of TID and MID
23 farmers.

24 They lived within their means and strode to pay
25 off the farm as quickly as possible. They're not out-of-

1 town investors growing thousands of acres of almonds.
2 They're hard-working Californians that were able to pay
3 off their farm, because their risk of planting almonds
4 succeeded. Something that would have never been a
5 reality without a reliable source of surface water and a
6 TID canal that's at the back of their property.

7 If the SED is executed as it stands, and that
8 lateral runs dry without any surface water, her orchard
9 will be gone. She can't afford to put in a costly drip
10 system for older trees that have a water root zone. And
11 even if she could afford it, the establishment of a new
12 well faces significant political and financial hurdles
13 for her. And it runs contrary to our region's attempts
14 to meet SGMA requirements.

15 Viola Brown is my grandmother. And her story
16 has been repeated up and down the Central Valley for
17 decades. While our region struggles with the nation's
18 highest unemployment rates, lowest literacy rates, and
19 ever-expanding number of disadvantaged communities
20 farming was and is our values way of upward social
21 mobility.

22 The SED single-handedly jeopardizes this
23 reality for thousands of my neighbors, my families, and
24 my friends. People like my grandmother are anxiously
25 watching as you threaten their economic existence.

1 So in closing I ask you to look at the science,
2 not cherry pick statistics. I ask you to look at all
3 options to restore fish populations, both flow and non-
4 flow measures. And I ask you to allow local input and
5 decisions that will impact my local community. I want to
6 believe that this Board has the best intentions of my
7 community at heart. But the severe flaws that have been
8 pointed out in the last few weeks in these hearings
9 proves that your staff needs to revisit the document.

10 As a Mayor, I would never accept a staff report
11 with this many inconsistencies on a dog park proposal,
12 let alone a document that will shape the future of water
13 in my region. So I urge you to take a more balanced
14 approach to the SED. The fate of my city rests with you.
15 The fate of thousands of farmers that grow your food
16 rests with you. The fate of thousands of employees that
17 process your food rests with you. And the fate of the
18 American dream in the Central Valley still rests with
19 you. Thank you.

20 VICE CHAIR SPIVY-WEBER: Thank you.

21 This will be our last speaker before we take a
22 break and -- go ahead.

23 COUNCIL MEMBER BUBLAK: Good morning. My name
24 is Amy Bublak and I'm a Council Member in the City of
25 Turlock. As a former police officer of two decades, I

1 have consistently stressed the need for a strengthened
2 police force in Turlock. However, as a member of
3 Stanislaus Regional Water Authority I have come to fully
4 realize the importance of water security in our city.

5 As Vice Chair Vierra stated at the Modesto
6 hearing the SRWA is a joint powers authority consisting
7 of the cities of Ceres and Turlock. The purpose of the
8 SRWA is to develop a regional drinking water treatment
9 supplier by using surface water from the Tuolumne River.

10 Like you the City of Turlock is concerned with
11 the declining fish population. However, we do take
12 exception to the approach you are taking to improve the
13 situation. Our economic base is agriculturally-related.
14 Our main employers are food processors and over half of
15 Turlock's residents work in town and are connected to
16 many of the companies.

17 In addition to diversifying our dependence on
18 groundwater, Turlock understands our responsibility to
19 conserve water. Last year we pumped 5.6 billion gallons,
20 about the same amount as we did in 1994. So despite
21 adding 24,000 residents in the past 21 years we have been
22 able to reduce by 34 percent. We know that we need to
23 expand our portfolio of water resources.

24 For the past 25 years we have looked at various
25 options to develop a surface water supply. This is our

1 single largest infrastructure investment since our
2 communities incorporated. We recognize how critical
3 surface water supply is to our communities. The Ceres
4 City Council and our counterparts in Turlock embarked on
5 this forward thinking and ambitious project. The bottom
6 line is Ceres and Turlock lack the resources to invest
7 millions of dollars with no assurance that a surface
8 water supply will be available.

9 The SED further stresses our drinking water and
10 water quality problems. The SED also takes away our main
11 opportunity to gain groundwater sustainability in our
12 region. I ask you to take a more balanced approach to
13 addressing the fisheries concerns, which we all share.

14 I urge you to be more active in developing
15 water supply projects, like the one in Turlock, to ensure
16 the Central Valley's basic right to a safe, clean and
17 affordable water supply is strengthened. Thank you.

18 VICE CHAIR SPIVY-WEBER: Thank you.

19 We will take a 10-minute break. We'll come
20 back at 10 of 11:00. We will have the three electeds who
21 are still before us: Larry Byrd, Sue Alamo and Ron
22 Macedo. And then we will move to the fish agency panel.
23 And then we will take lunch, so it depends on how long
24 that is. Probably it'll be a half hour for lunch. Thank
25 you.

1 (Off the record at 10:38 a.m.)

2 (On the record at 10:49 a.m.)

3 VICE CHAIR SPIVY-WEBER: California Department
4 of Fish and Wildlife, U.S. Fish and Wildlife Service,
5 National Marine Fisheries Service, and USEPA please come
6 forward and take you places as the panel.

7 (Colloquy re: speaker order.)

8 Okay. As they sit down go ahead and speak. Go
9 ahead.

10 MR. BYRD: Are you ready for me?

11 VICE CHAIR SPIVY-WEBER: I am more than ready.
12 You've lost about a minute, so --

13 MR. BYRD: Okay. Thank you for giving me this
14 opportunity. I'm Larry Byrd, a rancher and a Modesto
15 Irrigation District Board member and employee for over 40
16 years. I wanted to today -- I wasn't able to give this
17 presentation in Modesto, because I was under the weather
18 and you guys gave our panel 45 minutes. So I kind of
19 missed out, so thank you for letting me have a few
20 minutes here today. I'll try to expedite this as quick
21 as I can.

22 VICE CHAIR SPIVY-WEBER: Please do. If you can
23 take less than five minutes that would be great.

24 MR. BYRD: Okay. So there's not going to be
25 any charts, any modeling, or any graphs from Larry Byrd.

1 I'm just a blue-collar simple guy that knows the Tuolumne
2 River. I've lived on the Tuolumne River for many, many
3 years. I border it approximately seven miles of the
4 upper Tuolumne, so I'm actually in the part of the
5 Tuolumne where most of the salmon eggs are laid. So I'm
6 very interested in the salmon and always have been.

7 I've followed this very closely since 1971,
8 very closely. And then prior to that I did a little bit
9 of research prior to '71 about the fish on the Tuolumne,
10 because the water is about the fish is what I'm
11 understanding.

12 So I want you to know I also did the releases
13 for Modesto Irrigation District for the fish flows for 25
14 years in the Tuolumne. Not only border several miles of
15 the Tuolumne and ranch it, but did the releases for the
16 salmon industry or the salmon fish for over 25 years
17 manually with a gate. Now it's all automated now, in
18 conjunction with TID.

19 So I wanted to give you a little history that
20 MID was formed in 1887. It was called the Wright Act,
21 built La Grange Dam and completed it in 1893, and started
22 our first flow of water in 1904 out of our main canal.
23 That's the history I wanted to have, and now this is
24 going to be mainly about the Tuolumne River.

25 And I'm concerned about science, I'm concerned

1 about modeling. I don't think anyone understands that
2 Tuolumne better than I do and has lived it like I have.
3 Now, I have watched this fish population fluctuate over
4 years, okay? Since 1971, that I've been there paying
5 attention to these fish. And it's always done this.

6 On these wet years you get a wet year -- I'll
7 give you an example, 2011 -- we ran large flows down the
8 river and no salmon for four years as you guys know.
9 We've been in a four-year dry period. This year we had
10 one of our biggest numbers in the last 15 years; 3,521
11 fish this morning. As of last year at this date, 500.

12 So all that water or no water, no water, and we
13 have all these fish this year doesn't add up, but it adds
14 up to me. Because I've seen this happen for years, it's
15 just like this, it doesn't matter. It's a roller coaster
16 ride. Some years you have 3,400 fish, some years you
17 have 3 or 4,000 fish. It's just the way it is.

18 It is never due to the water, because we run
19 the same flows of water consistently. Especially the
20 last four to five years, those have been consistent
21 flows. And when I heard somebody say earlier single-
22 digit numbers, but it's always 100 CFS plus. And we add
23 a little bit of water to those flows to show our best
24 foot forward.

25 Okay. Now I want to talk real quickly about

1 doing restoration work on the Tuolumne. I introduced
2 Dave and Allison Boucher, who is the Tuolumne River
3 Conservatory, to a piece of land on the Tuolumne River 20
4 years ago. So if you scratch my back I've got a little
5 enviro here, because I am a conservationist. I am an
6 environmentalist. I want to preserve the land. I want
7 to preserve the river, but we've got to do it in the
8 right way.

9 We've got to do it to where we don't do more
10 harm in the river than we're doing now. I think what
11 we're doing now, in the flows that we're doing in this
12 river currently, are the answer. This is what's going
13 on. You see the fish numbers each year.

14 Also, we need to do more restoration projects.
15 Allison and Dave did a beautiful restoration project on
16 the upper Tuolumne at Bobcat Flat where they purchased
17 this 200 acres of ground. And I helped them find this,
18 get there, why would I do that? Why would I be working
19 with an environmental group on the river? Because I want
20 that river to be the river they want it to be. I want to
21 see those fish. I want to see the wildlife, which we're
22 seeing.

23 By the way, a contradiction to what you might
24 have heard the other day and what I heard in one of the
25 hearings -- the eagle, the Bald eagle and the beaver were

1 the two comments I heard -- they're not seeing them like
2 they did. Very untrue. We have such a beaver problem on
3 the Tuolumne River it's unbelievable. And the Bald eagle
4 is up there everywhere, everywhere on our ranch. So
5 we're seeing them everywhere, so I just wanted to dispute
6 the idea that we're not losing wildlife on the Tuolumne
7 whatsoever.

8 I know I've only got a couple of minutes --

9 VICE CHAIR SPIVY-WEBER: Can you wrap up?

10 MR. BYRD: -- in closing let me do this, I
11 hated to close yet, because I have a lot to say but here
12 we go. In my opinion, my professional opinion and the
13 guy that lives the river for all these years, more water
14 doesn't produce more fish. But if we do joint ventures
15 with the Tuolumne River Conservatory or even MID and TID
16 and we do these restoration projects like they're doing,
17 I see some gain in that. I see where we can help things
18 out.

19 I'm real concerned that if we don't pay
20 attention to this that we're going to shoot ourselves in
21 the foot. When I see a large water flow, a lot of times
22 we're not seeing the fish, because we screwed them up.

23 One more thing I'm going to leave you with,
24 I've never seen a smolt in that river after March 15th.
25 There's no spring-run Chinook and by then all the smolts

1 have been worked down the river, so I've never seen that.
2 I want you to know that, so when you're talking about
3 those after March flows they're very unnecessary. It's
4 not there, it's just not there, why waste that block of
5 water on something that's not there?

6 It's working what we're doing. We'll continue
7 doing what we're doing. And I promise you that MID and
8 TID are willing to do restoration programs on that river
9 or anything besides those flow measures that will
10 actually do more harm than good.

11 I'm talking from my heart. I'm not talking
12 from my head. I've got all the graphs here that you guys
13 have. I've got all that, I've studied it. I'm telling
14 you, that's not the answer. Thank you.

15 VICE CHAIR SPIVY-WEBER: Thank you.

16 MR. BYRD: Thank you for listening to me.

17 VICE CHAIR SPIVY-WEBER: Joe, I'm sorry -- I
18 said Sue -- Joe Alamo and Ron Macedo.

19 MR. ALAMO: Thank you, Vice Chair and members
20 of the Board. Like you said, my name is Joe Alamo, I'm
21 currently the President of the Turlock Irrigation
22 District Board of Directors and have served as a Board
23 member for the past seven years.

24 I'd like to thank you for extending public
25 comment for an additional 60 days. This extension will

1 allow TID and others impacted by this proposal additional
2 time to provide a complete technical analysis of the SED.
3 Also I'd like to say thank you for holding your hearings
4 in Modesto, Merced and Stockton last month.

5 In Modesto you heard from TID that there are
6 alternatives other than just flow to improve fisheries.
7 You've also heard the passionate pleas from our
8 residents, businesses, and growers in Modesto and Merced.
9 So I have no reason to rehash those points today. Today
10 I want to focus on three specific points that those who
11 attempt to vilify Central Valley agriculture may have
12 conveniently ignored or perhaps overlooked.

13 I'm unsure where the Board falls on these
14 areas, but I'd be remiss today if I did not mention them.
15 Point 1, TID's diversions from the Tuolumne River for
16 farming have been the same since 1926. Fluctuating, of
17 course, along with the water type year. Turlock
18 Irrigation District has served the same 150,000 irrigated
19 acres for close to a century. Our farming footprint
20 hasn't increased over the last 100 years. Rather our
21 district is a model for what should be -- sustainable
22 farming looks like in California.

23 Some groups speaking in front of you have
24 implied or outright stated that excess diversions for
25 farming have damaged the fishery in our region over the

1 past 90 years. However, TID's diversion paradigm has not
2 changed in the last 90 years. During this time ensuring
3 flows have actually increased. Point Two, the average
4 parcel size within TID is less than 30 acres. It's been
5 conveniently, for some advocates of increased flows, to
6 label TID growers as corporate farmers. However, that is
7 not what TID is and is not who our over 5,800 growers
8 are.

9 I would also like to respond to your staff
10 presentation a little bit. According to our own analysis
11 in 2014 and 2015, we would have had a zero allocation for
12 any of our growers under the new SED paradigm if it was
13 in place in the past.

14 So to close with my final point, this SED as
15 written does not give us the room to work with the
16 various agencies to do the things that the river needs
17 and deserves. Our agencies can either plan for a decade-
18 long legal battle or we can actually do something
19 meaningful for the river without harming our region.

20 I'm asking you to thoroughly review the best
21 and incorporate TID's pending technical comments and
22 recent science conducted on the Tuolumne. After you have
23 reviewed all our comments, please communicate with us and
24 our experts to revise the SED over the coming months.
25 Allow us the opportunity to work together to arrive at a

1 collaborative solution that minimizes the impacts to the
2 region and can maximize the benefits to the fishery.

3 There's a better way and the Turlock Irrigation
4 District is here to help you guys find it.

5 VICE CHAIR SPIVY-WEBER: Thank you.

6 MR. ALAMO: Thank you.

7 VICE CHAIR SPIVY-WEBER: Yes, sir.

8 MR. MACEDO: Good morning, members of the
9 Board. My name is Ron Macedo and I've been on the Board
10 of the Turlock Irrigation District for seven years as
11 well. I've farmed in Turlock my entire life. I grow
12 pumpkins and run a corn maze and a pumpkin farm there and
13 we have the pleasure of introducing about 2,000
14 kindergarteners a year to agriculture there through field
15 trips. I'd like to continue to do that.

16 I have some comments on the document. The only
17 numerically quantified assessment on the fishery in the
18 SED is the fall-run Chinook salmon. I know the staff has
19 said the SalSim model is flawed and were, quote,
20 "Surprised to see that it didn't produce a lot of fish."
21 End quote. SalSim shows an average increase over
22 baseline production of 1,103 fall-run Chinook salmon at
23 40 percent unimpaired flows.

24 Based on the admission of staff that the SalSim
25 model and results are flawed I have one simple question.

1 Why are we still moving forward with this process? If
2 the main model to show the benefit to the fishery is not
3 accurate, how can staff be recommending any flow
4 conditions at all? You need to put off this process,
5 don't rush this. There is no reason to vote on a
6 document that isn't 100 percent backed by science. The
7 impacts to my operation and the community will be
8 devastating.

9 Go back to the drawing board. Allow the
10 districts and other stakeholders to provide input to fish
11 population models. Allow the science to be defensible.
12 Let's get this right. Let's not settle for a Plan that's
13 based on averages and riddled with errors. Let's have
14 factual, quantitative and beneficial results.

15 Your document can't be fixed. Stop this
16 process, get the districts involved, and let's develop a
17 Plan that we can all live with. Thank you.

18 VICE CHAIR SPIVY-WEBER: Thank you so much.

19 Now we will move to the panel, and then we will
20 have at the end of the panel there are four people who
21 need to leave early, and I will ask them to speak.
22 Abigail Warner, Kevin O'Brien, Penny Frost and Michael
23 Frost.

24 And then we will take a lunch break.

25 Go ahead, thank you.

1 MS. FORESMAN: Okay. Good morning, Vice Chair
2 Spivy-Weber and members of the Water Board. I want to
3 say thank you for granting additional time to EPA and the
4 State and the Federal fisheries agencies to summarize our
5 comments on the proposed water quality standards and the
6 Phase 1 draft, in the draft Phase 1 update to the Water
7 Quality Control Plan.

8 My name is Erin Foresman. I'm an Environmental
9 Scientist for USEPA on their San Francisco/Bay-Delta
10 team. And I'm joined today by my colleagues from the
11 National Marine Fisheries Service, U.S. Fish and Wildlife
12 Service, and the California Department Fish of Wildlife.
13 And we collaborated on this panel of presentations, so
14 that we can be efficient with your time. And so that we
15 had a chance to integrate Clean Water Act and Endangered
16 Species Act concepts, so we can speak with a unified
17 voice for aquatic resource management.

18 So I'm going to get started today and these
19 reflect some of Vice Chair Spivy-Weber's introductory
20 comments. And this helps me set up the framework for
21 EPA's review. So EPA's review of proposed water quality
22 standards is subject to the requirements and the goals in
23 the Clean Water Act. And water quality standards are
24 intended to protect many different beneficial uses, which
25 you see examples of pictured on the screen.

1 So you have municipal water supply for drinking
2 water and watering lawns, agricultural water supply for
3 crop irrigation, aquatic life beneficial uses for
4 coldwater habitat and migratory habitat and spawning and
5 rearing. And then you have recreational uses for
6 swimming and boating and commercial and recreational
7 fisheries.

8 And we know in the SED process the State Water
9 Board has said that the existing standards aren't
10 protecting aquatic life beneficial uses. But we also
11 thought it was important just to observe that the latest
12 list of the impaired water bodies shows that 85 percent
13 of existing beneficial use impairments are to aquatic
14 life beneficial uses. So we very much support the State
15 Water Board's effort to update water quality standards in
16 this effort for the Phase 1 update.

17 We specifically support the State Water Board's
18 effort to update flow standards to improve aquatic life
19 beneficial uses. So this chart should look familiar to
20 you. It was presented by your staff on November 29th in
21 their presentation and it shows fall-run salmon adults,
22 relative to flow levels that the juvenile cohort
23 experienced two-and-a-half years prior. And we can see
24 here that higher flow levels for juveniles generally
25 result in higher numbers of adult salmon.

1 I also drew a line across the top, this is
2 something I added to the chart, that shows the salmon
3 doubling target for the salmon protection objective.
4 This is the portion for the Lower San Joaquin River
5 Watershed. And it represents the estimated naturally
6 returning adults for fall-run Chinook salmon for the
7 Tuolumne, Merced and the Stanislaus rivers. And that is
8 an estimate of about 78,000.

9 So this figure really shows that freshwater
10 flows in the Lower San Joaquin River Watershed play a
11 significant role in determining abundance of fall-run
12 Chinook salmon adults, attaining the salmon protection
13 objective and protecting the beneficial use. All of
14 which support the Water Board's actions to adopt flow
15 standards and improve conditions for this commercial
16 fishery and for aquatic life uses overall.

17 So the next several slides summarize our main
18 points in the comment letter that we submitted. So
19 first, I want to focus on the narrative objective. And
20 the proposed narrative objective is an application from
21 February to June much like the numeric objective. And we
22 agree with the text of the narrative objective and all
23 summaries here, but it's to provide flow conditions that
24 support and maintain the natural production of viable
25 native San Joaquin River Watershed fish populations

1 migrating through the Delta.

2 So we think the text is good, but we think it
3 should apply year-round. And to support that we used
4 this table for the SED, Table 7-4, and it shows that
5 target fish species are in the system year-round. The
6 dark colored boxes and the light gray boxes together show
7 the primary occurrence and non-primary occurrence periods
8 in the system.

9 We've talked with staff about this for several
10 years. And we understand it will cause a large delay to
11 go back and make the narrative objective year-round. So
12 instead of suggesting that we recommend slightly
13 modifying the text of the narrative objective to state
14 the implementation of the Lower San Joaquin River flow
15 objectives should not cause adverse impacts to fish and
16 wildlife from July to January. So just in the months
17 outside the window of the narrative objective.

18 MS. D'ADAMO: I have a question on that?

19 MS. FORESMAN: Yeah?

20 MS. D'ADAMO: Are you proposing that that be in
21 the table?

22 MS. FORESMAN: Uh-huh, Table 3, yes. We
23 submitted it in our letter and we have the text in there.

24 So next I'm going to focus on the numeric flow
25 objective. The SED proposal is for a 30 to 50 percent

1 unimpaired flow range at the confluence of each one of
2 the tributaries: the Stanislaus, Tuolumne and Merced
3 rivers. And the implementation plan suggests starting at
4 40 percent of unimpaired flow. And this has been
5 discussed as having a block of water to use for aquatic
6 resource management.

7 The proposed block of water approach, we feel
8 has a better chance of success, if we define the
9 equations and the measurements that determine the size of
10 the block of water in Table 3 of the Water Quality
11 Control Plan. And we're making this recommendation,
12 because that provides instream users and consumptive
13 users a way to calculate and estimate how much water they
14 will have to work with during that month or season.

15 The next recommendation we have, and this
16 speaks a little bit to Les's presentation earlier, is to
17 identify reservoir storage targets again in the
18 objective. And I put the assumption that was used in
19 modeling in the little blue part of the beaker there, the
20 end of your September storage of 300,000 acre-feet.
21 That's the assumption that was used in the modeling, in
22 the SED and we did see substantial habitat benefits,
23 which we were very encouraged by. But we're concerned
24 that those benefits won't actually occur if we don't have
25 some sort of decision rule that holds some water in the

1 reservoirs to be used when it's needed for temperature
2 mitigation.

3 So my next four points work very tightly
4 together, so I'll try to weave this in a way that makes
5 sense. We're also recommending that the starting percent
6 of unimpaired flow be included in the objective in Table
7 3, not just in the implementation plan. And we want to
8 couple that with a biologic goal for shifting percent of
9 unimpaired flow within the approved range.

10 So an example of a biological goal is perhaps
11 using a freshwater survival rate for achieving salmon
12 doubling. This would be for fall-run Chinook salmon. So
13 if you have a freshwater survival rate that is achieving
14 doubling within a specified time period you could pick
15 three to four salmon generations or approximately ten
16 years.

17 Then if you're achieving that rate then you can
18 reduce your percent of unimpaired flow within the
19 approved window to below 40. If you're not achieving
20 that rate then you need to increase your flows to above
21 40. And we feel like this is a good way that you can use
22 a biological goal coupled with the percent of unimpaired
23 flow to ensure that you're actually making progress
24 toward achieving the salmon doubling objective, or I'm
25 sorry, the salmon protection objective.

1 Then the next point I want to make is we're
2 recommending that we add a percent of unimpaired flow
3 compliance point at Vernalis. As I explained earlier the
4 proposal is to have compliance points at the confluence
5 of the Stanislaus, Tuolumne and Merced rivers. But once
6 that water enters the lower stem, the stem of the Lower
7 San Joaquin River, then it's really not protected
8 anymore. And if you add a percent of unimpaired flow
9 compliance point at Vernalis it'll increase the
10 likelihood that those waters actually get to Vernalis.

11 And one reason this is so important is that we
12 need the flow range at Vernalis to promote survival
13 through the Delta. And that is part of the intent for
14 Phase 1 update of the Water Quality Control Plan. And
15 this is a very important piece that I want to make sure I
16 get right, so I'm going to check my notes, but we need to
17 be thinking of the next phase and ensuring that flows at
18 Vernalis are high enough to provide an uninterrupted San
19 Joaquin River corridor through the Delta.

20 So in many ways the success of Phase 2 is
21 really dependent on the flow range that we identify in
22 Phase 1 to make sure that we can successfully move
23 juvenile salmon from Vernalis through the Delta.

24 MS. D'ADAMO: But then maybe what you're not --
25 maybe what you're looking for is a block of water, a

1 certain amount of water, as opposed to unimpaired flow.
2 Because unimpaired flow especially -- well it could get
3 pretty low.

4 MS. FORESMAN: Well, so there is the base flow
5 standard at Vernalis which is 1,000 CFS, which I think is
6 substantially lower than the 30 to 40 percent range
7 that's being proposed in most years. And I think that
8 what I mean to say is that we need that range to be high
9 enough to promote that survival through the Delta.

10 Did that answer your question?

11 MS. D'ADAMO: (No audible response.)

12 MS. FORESMAN: Okay.

13 Okay. A few words on adoptive management, my
14 colleagues are going to cover this on more detail.
15 Adaptive management will be part of the implementation
16 and we support the State Water Board using active
17 adaptive management to shape flows and to really get the
18 most we can out of the water in the river for this
19 beneficial use.

20 We feel like it will be more successful if at
21 the outset, the rules of the working group participants
22 are defined. That there is some structure and function
23 for decision-making processes that the work group
24 participants can use. And that they don't need to use
25 their precious time to come up with that at the beginning

1 to provide some criteria to trigger management actions
2 and to do some work ahead of time, so that we can
3 identify targets for shaping flows. And I think doing
4 all of these things will set up the working group for a
5 successful start.

6 And last, but definitely not least, we're
7 recommending that the State Board establish an
8 independent monitoring assessment and science program,
9 recognizing that adaptive management is being relied
10 upon, so heavily for implementing the standard. And that
11 you'll need data sources you can trust. And right now I
12 don't you're collecting all the data that you'll need to
13 make informed decisions. And this is a more efficient
14 way to get the data that you need to the decision makers,
15 than identifying individual monitoring requirements for
16 individual users.

17 So in summary, instream flows are needed to
18 protect aquatic life uses all year. We're recommending
19 that you adopt standards that are well defined and
20 protect the beneficial use. We recommend that you
21 identify a structure and targets for adaptive management
22 and to establish a monitoring assessment and science
23 program to give adaptive management process the
24 information it needs.

25 And with that, I will hand it off to Jeff.

1 MR. MCLAIN: Good morning, Vice Chair and
2 Board. My name's Jeff McLain. I'm from the National
3 Marine Fisheries Service. I'm the Division Manager in
4 the California Central Valley office. I'm happy to be
5 here to share some of our comments.

6 First thing I wanted to talk about was the NOAA
7 Fisheries role, or otherwise known as National Marine
8 Fisheries Service. The West Coast region of the National
9 Marine Fisheries Service manages approximately 90 species
10 of fish, along the coastline that are dependent on the
11 marine environment. Many of those are commercial fishing
12 species and many also depend on the estuarine
13 environment.

14 And so, in our case, the fish that are in the
15 San Joaquin area that are germane to this discussion, is
16 the California Central Valley steelhead, as well as
17 designated critical habitat of the Central Valley spring-
18 run Chinook salmon.

19 We also have the Magnuson-Stevens Fishery
20 Conservation and Management Act, which designates
21 essential fish habitat for Pacific salmon in our area
22 that we're talking about. And then finally, there's a
23 reintroduced population of Central Valley spring-run,
24 upstream of our area in the San Joaquin River Restoration
25 Program we designated a non-essential experimental

1 population several years ago. And downstream of the
2 restoration area, those fish would be simply Central
3 Valley spring-run.

4 So our first comment is related to the 40
5 percent default and 30 to 50 percent range that you
6 proposed. And as discussed in the documents, in the
7 prior documents as well as the SED, the 60 percent
8 unimpaired value would be the best for increasing
9 survival and perhaps a recovery of our species. However,
10 we recognize this isn't a recovery plan. And there are
11 many, many factors that you are taking into account.

12 We agree that 40 percent is a good start for
13 the start of this. And we want to make it clear though
14 that we don't expect to achieve recovery with that 40
15 percent. According to our assessment we think 40 percent
16 would likely have higher flows on the Stanislaus River
17 slightly, and higher flows on the Tuolumne and Merced
18 rivers, that would benefit fisheries.

19 We have commented on this before. We do feel
20 that a year-round flow schedule is important. Both of
21 our species are commonly in fresh water for far longer
22 than the February to June period. And so we feel that
23 the whole year needs to be looked at. We also recommend
24 a flow criteria at Vernalis similar to what EPA was
25 talking about.

1 So this is just an example of the 2e flow
2 schedule on the Stanislaus River. This is a requirement
3 in our 2009 Water Operations Biological Opinion that one
4 of the requirements to move the water, we have to have a
5 flow schedule. It's called the 2e flow schedule that
6 designates different parts of the season, the fishery
7 season so to speak. It gives you bits of water for
8 outmigration cues as well as just outmigration flows.
9 And then there's water use for fall attraction and winter
10 rearing purposes.

11 And this varies by water year type. And you
12 can move water between these chunks of flows here. We've
13 provided a detailed review of this in our recent letter
14 to you.

15 Well, I was happy to see that in the staff
16 report that you talked about the reservoir constraints,
17 because that is one of the things that we found. We saw
18 that there was a need to have some carryover for the
19 system to not crash. And so thank you for the report
20 this morning. We do feel that those constraints should
21 be in Table 3 or somewhere in the Plan, so that we have
22 those out front.

23 Getting back a little bit more to the
24 Endangered Species Act side of things, the Environmental
25 Protection Agency will request consultation with the

1 National Marine Fisheries Service. And in that process,
2 we're going to have to look at the environmental baseline
3 of the population. And then apply the effects of this
4 project on the baseline. And so we did want to make it
5 clear that as stated already -- in fact, Vice Chair, you
6 already said this morning that the species are in trouble
7 -- and yes our species are in trouble. And substantial
8 efforts are going to be needed to reverse the declining
9 trends that we're seeing.

10 The two little graphs on the left there just
11 show the difference between historic and current
12 distribution of Central Valley steelhead. And you can
13 see it's been dramatically reduced. The graph on the
14 lower right is taken from the SED and it just shows the
15 magnitude of the decrease in the flows. And these are
16 just two of the factors that we're dealing with.

17 MR. MOORE: You know, on this point this is
18 something that we've talked about a bit during these
19 hearings. And looking at these maps the historic range,
20 to some extent that's not real helpful to the discussion
21 today, right? But what's interesting is the timing.
22 Given the map that shows where the rim dams are what I'm
23 struck by is that those changes to the system, the
24 physical changes, really predate the observed decline in
25 salmon numbers by a long time.

1 1967 to 1991 is your baseline you use for your
2 salmon doubling goal in the CVPIA. And with this map
3 we're looking at here, with its rim dams, they were in
4 within during that period. The 1967 to 1991 period, we
5 have what I think you would say are acceptable salmon
6 numbers.

7 And so I think it's a real -- we have to be
8 clear that something's happened since the physical
9 alterations that we need to address. So I just think
10 when we look at these historic maps, sometimes it's a bit
11 of a distraction, because that's not really what we're
12 aiming for. We're aiming for achieving what is in the
13 map with the dams in it that we were able to achieve
14 prior to the -- which is setting up our doubling goal.

15 So I want you to help in your testimony, kind
16 of focus us there. What are the factors that you've
17 observed since the physical alterations? That helped?

18 MR. MCLAIN: Yeah.

19 MR. MOORE: Because if you look at the spikes,
20 the testimony talks about we do see good salmon numbers
21 during wet years and it's true, you know? But are they
22 less than previous wet years? And so I think we need to
23 focus the discussion a little bit about what's
24 attainable.

1 MS. D'ADAMO: Well, especially if you look at
2 the system as a whole, right? I mean if you look at
3 including the San Joaquin and the Delta, the changes with
4 respect to the entire watershed.

5 MR. MCLAIN: Yeah, thank you. I will add that
6 this does show a lot of resilience in salmon and
7 steelhead. It takes time for populations to go down and
8 go up. And when we see year-to-year changes in
9 abundance, that can be not necessarily a population level
10 change. It can be a specific to a watershed or specific
11 flow conditions. But I would have to defer to our
12 scientists on the actual population dynamics part of it.
13 We certainly can bring more information back if needed on
14 that.

15 MR. MOORE: Thanks.

16 MR. MCLAIN: Yeah.

17 A little bit about the adaptive management
18 process, we do support the idea of adaptive management
19 process. We just have a hard time figuring out what the
20 structure of that process would look like and we'd like
21 to see more clear biological goals and objectives. And
22 any adjustments of the protective measures should be
23 linked to meet the narrative fish and wildlife protection
24 objectives.

1 I should probably revise that bullet to say
2 NMFS is reluctant to spend a lot of time on the adaptive
3 management process. We're just short on staff and a very
4 intense adaptive management, we are concerned, would take
5 a lot of time. And we're concerned is that we couldn't
6 represent our fish. And so any improvements in the
7 direction and structure would be helpful for us.

8 We did notice that there was some language in
9 Appendix K that talked about protecting the water as it
10 went down into the Delta. And we would like to see that
11 actually in Table 3 or somewhere in the Plan. We need
12 more scientific basis for the flows at Vernalis as well.
13 We would like to see that water protected all the way
14 into the Delta. And presumably, if we're going with the
15 30 to 50 percent range and the 40 percent start, the
16 flows would be pretty good at Vernalis assuming that's
17 the case and that water was protected, so.

18 And finally we had our economics expert from
19 the Science Center, Dr. Cameron Speir, review the
20 economics analysis. He right up front stated that, "Yes,
21 there's a slightly less than 3 percent change in regional
22 economic output in employment." He found some agreement
23 with that and then but he did feel that there was an
24 overestimate in that. And that was definitely the higher
25 end of things. Primarily due to the context, the

1 regional context, he looked at prior times when there
2 were cutbacks and found that it was lower -- impacts were
3 lower than anticipated, based on prior times.

4 In summary, I'll just state that we would like
5 to see a year-round flow schedule that would be better
6 protective of the various life stages of our fish. Thank
7 you for the carryover storage discussion this morning.
8 We would like to see more biological goals and objectives
9 associated with the adaptive management process, as well
10 as clearer direction in structure. And again, we feel we
11 should protect that water as it flows through into the
12 Delta.

13 VICE CHAIR SPIVY-WEBER: Thank you.

14 MR. MCLAIN: Thank you.

15 MR. RATCLIFF: Good morning, Vice Chair and
16 Board, and thank you from the Fish and Wildlife Service.
17 My name is Donny Ratcliff. I'm the Central Valley
18 Supervisor as of this last week. Before that, I was the
19 Assistant Program Manager at the Anadromous Fish
20 Restoration Program, so I've worked with CVPIA since
21 about 2009 with the Fish and Wildlife Service. This is
22 the California Department of Fish and Wildlife, sorry.
23 We're the other. We used to be Fish and Wildlife and
24 Fish and Game, and that was easier.

1 Well, I'd like to start by saying the Fish and
2 Wildlife Service is extremely appreciative to the Board,
3 to the Board staff. We recognize, I think especially
4 from the CVPIA perspective, just how much work goes into
5 an endeavor like this. We've done that -- something
6 similar for 20 plus years -- and boy it's an awful lot of
7 work still. And to start an endeavor like this and to be
8 so willing to take comments from experts and the public
9 is very much appreciated.

10 I will focus mostly today on the Fish and
11 Wildlife Service's interest and responsibilities, mostly
12 related to the geographic scope of Phase 1 at this point.
13 We do obviously have Endangered Species Act regulatory
14 issues and concerns in the Central Valley, mostly related
15 to Delta smelt. But that will come mostly likely with
16 our review of Phase 2. Most of the review that I will
17 summarize today comes from our restoration staff under
18 CVPIA. And some of the other staff that works out of our
19 Lodi Fish and Wildlife office, with non-anadromous or
20 non-CVPIA target fisheries.

21 So we will go much more in-depth in our letter,
22 which we're preparing right now, into individual specific
23 points. But for today I've tried to group some of our
24 comments in three general areas. And those would be
25 flow-related needs for fish and aquatic habitats,

1 measureable goals and objectives -- things that we can
2 work towards to measure success -- and adaptive
3 management. And try to give some perspective of where
4 we're at right now, because we are undertaking a very
5 similar process of trying to move towards implementation
6 via adaptive management and more science-based framework
7 at CVPIA.

8 So to start when thinking about flows and how
9 they impact fish and habitat within the rivers, we were
10 very pleased to see the shift from the previous version
11 of the SED to the current revised version, utilizing a 7-
12 day running average versus fourteen. But we would also
13 like to highlight a couple of points that we think should
14 be considered when the adaptive management implementation
15 actually occurs.

16 And that's that by solely using a 7-day running
17 average there is still the potential that with short,
18 high-intensity storms that may only occur over a few
19 days, that you may decouple the managed flows that you
20 would release from the benefits you would be getting from
21 some of the other natural benefits that come along with
22 the storm event. But also some of the additional water
23 supply that may come in from below the rim dams or via
24 groundwater.

1 It may also limit your ability to spatially and
2 temporally connect floodplains and other beneficial
3 habitats. You may actually get a longer temporal
4 connection depending on how those flows are shaped, but
5 you may connect much to less habitat by not being able to
6 basically add to what the system is naturally getting
7 from storm events.

8 So this next slide is a graph. This is just a
9 short snapshot utilizing flows from the Stanislaus in
10 2009 from just after the start of February to about the
11 end of March. The white line here is based on the flow
12 record that we have from 2009, from that time period,
13 what would be released basically instantaneously. What's
14 40 percent of unimpaired flow, without any operational
15 constraints?

16 The blue line is what you would get with
17 straight releases based on a 3-day average. And the
18 yellow line is a 7-day average. So what we want to point
19 out here in the green circle is notice the spikes that
20 you get. The magnitude of those spikes with both the
21 white and blue lines, versus the yellow line representing
22 the 7-day average. Again, this is just with straight
23 releases based on those averages.

24 We see a difference in magnitude there of over
25 1,500 CFS. We also then, if you noticed the red arrow

1 down at the bottom, potentially start to see a decoupling
2 from the benefits you might get beyond just flow from the
3 storm event: barometric pressure changes, cloud cover,
4 natural turbidity, some of the other things that we
5 believe influence fishes' success and survival and
6 potential to outmigrate. Those cues that they naturally
7 developed through natural storm events.

8 Now, you potentially have missed that entire
9 peak. And so again we are pleased to see that move from
10 a 14-day to a 7-day average. But we would urge the
11 Board, staff, folks to make sure that when the adaptive
12 management process is being further refined that we think
13 about what additional flexibilities we might be able to
14 add to get those benefits of coupling with storm events.

15 MR. MOORE: I appreciate this. This gets to
16 the heart and soul of why I'm doing this job, why I'm up
17 here, is to better engineer biology, because I get
18 backgrounds in both. And this is a key point. Not only
19 are you missing benefits during when the natural cues are
20 happening, but look at that shoulder on the yellow.
21 That's a big chunk of water that's in the name of fish
22 that everyone who wants to see fish survive, from all
23 perspectives, can be very frustrated with. Because
24 that's a bunch of water that's not going to get the

1 benefit, because we've averaged based on an operational
2 constraint that we are imagining, okay?

3 We're imagining that we have to stay with the
4 7-day approach. We can do better. In water distribution
5 systems, in sanitary sewer collection systems, we operate
6 better than 7-day averages. We can operate rivers in
7 that way as well.

8 And so I think this is a key graph. I
9 appreciate the time you've put into this and your
10 explanation of it. And I'm talking to my friends in the
11 irrigation districts, in the City and County of San
12 Francisco with these comments. But I'm interested in how
13 we -- and DWR for that matter -- how we modify our
14 operations statewide to be more real time. Thank you.

15 MR. RATCLIFF: Okay. So now I'd like to shift
16 a little bit. Obviously we are very closely tied to the
17 SED or the salmon protection objective, although we call
18 ours the CVPIA doubling goal. But we also do an awful
19 lot of work, or attempting to start doing an awful lot of
20 work with some of the other CVPIA species. We have
21 focused an awful lot on fall-run Chinook and they are
22 obviously a very important species. But we at the
23 program have, after 20 years, started to try to improve
24 the science, in recent years, on some of the other
25 species that we're charged with doubling as well.

1 And so specifically for the San Joaquin portion
2 of the Central Valley, one of the species that we have
3 focused greatly on since about 2011 are white sturgeon.
4 And this was prompted by writing the San Joaquin River
5 Restoration Program, Fisheries Plan, Management Plan, and
6 finding that the common belief amongst California
7 fisheries managers was that sturgeon, both white and
8 green, did not use the San Joaquin. And yet we had
9 reports from anglers, for many years, from our friends at
10 the Department of Fish and Wildlife, that sturgeon
11 anglers were actively catching fish in the San Joaquin,
12 well above the confluence of the Stanislaus. So not just
13 slowly migrating a little bit out of the Delta.

14 So in 2011 we started an effort to find and
15 identify the population and the habitats they might be
16 using of white sturgeon in the San Joaquin. And what we
17 found in the past five years is that adult white sturgeon
18 definitely do use the San Joaquin every year. They are
19 in the main stem every year. We have over 80 fish
20 acoustically tagged now with 10-year tags in them. And
21 we're able to pick them up every year, throughout the
22 year.

23 We've also then seen in a couple of our drier
24 years, as much as we would like to have not experienced
25 them they've given us a good test case, that with a very

1 modest amount of flow that not only are those fish
2 present, but they appear to be cueing to spawn. And
3 we've actually documented successful spawning in a couple
4 of fairly lean water years.

5 So these next two slides are examples of that
6 from the 2012 and 2016 years. What we have here is
7 stream flow in cubic meters per second on the left y
8 axis, stream flow in cubic feet per second on the right,
9 because I could not get my sturgeon biologists not to
10 leave their metric axis on there. And January through
11 June, on the x axis.

12 The top white line, the solid line, is flow
13 within the main sub San Joaquin in what we call the
14 Stanislaus Reach, which is generally downstream of the
15 Stanislaus up until about the Tuolumne confluence. And
16 the dashed line below it is the Merced Reach. So that's
17 San Joaquin River flow, mostly in the Merced River Reach
18 confluence and just slightly above.

19 And the verticals bars that you see in the
20 graph are documented sturgeon spawning events where we
21 have collected actual eggs, sturgeon eggs, after these
22 flow events. And so we put sturgeon egg mats out in the
23 river. It is very much a needle in a haystack hunt, but
24 we have successfully been able to find some of these and
25 age the eggs and tie them back to the date of spawning.

1 MR. MOORE: Real quick, just to help illustrate
2 this flow regime, how much was sort of uncontrolled flow
3 in these events versus really methodically controlled and
4 determined by pulse flow agreements between the agencies
5 and the districts?

6 MR. RATCLIFF: Specifically, I guess we haven't
7 done the analysis back to where they may have been
8 managed flows for salmon or other species. I can
9 definitively tell you that none of these are anything but
10 natural flow events as far as relating to sturgeon.
11 We've never, to this date in the San Joaquin, released
12 any managed flows specifically to target sturgeon.

13 MR. MOORE: I get that. But really my question
14 was more just for the audience and ourselves really, to
15 understand this flow regime we're looking at. How human-
16 caused is this hydrograph versus storm events that got
17 away from us?

18 MR. RATCLIFF: Okay. Yeah, so I can come back
19 to you with that on 2012. I'm a little less familiar --
20 I will say in 2016 -- because my Direct Report who works
21 on this -- and I had quite the wager when he told me he
22 knew when they would spawn -- this is moving to 2016,
23 same type of graph. That first event you see, just to
24 the right of the March label, was completely an actual
25 storm event. That was towards the tail end March, last

1 year when we had a couple of days of a really strong rain
2 event that pelted the San Joaquin Valley for about a day
3 and a half, a pretty incredible lightning show came along
4 with it. So he may remember. And sure enough, within
5 three days, we had sturgeon eggs in our mats.

6 And so we believe, at this point, that we can
7 forecast that something along the lines of a bump of
8 1,000 to 1,500 CFS cues these fish and potentially
9 something lower than that. And so, we wanted to
10 illustrate this to show that there are other species in
11 the system that may benefit from how we craft these
12 spring flows. It appears that variability, on a very
13 short time scale, in the main stem at least for sturgeon,
14 can be extremely beneficial. With what I hope we can all
15 agree with a fairly modest amount of water, considering
16 some of these modeled results we've seen for protecting
17 some of the other species.

18 Another example, this is not from our CVPIA
19 program, this our Delta Juvenile Fish Monitoring Program,
20 one of the services components of the IEP Program and the
21 work we do there. This graph shows a comparison of our
22 catches in the Lower San Joaquin of Sacramento splittail
23 from 1994 to 2012. So the y axis here you have an index
24 of recruitment success. And so this is in May to June,
25 after spring spawning events of Sacramento splittail

1 larvae that are sampled that we believe have successfully
2 recruited into the population.

3 On the x axis then you have what is basically
4 an average of the 45 days between March and May at
5 Vernalis, when we had the 45 consecutive highest days of
6 flow. So even there are low flow days in there, in that
7 time period, these are the 45 consecutive highest days in
8 that time window. And what you'll see is that in the
9 years that we've had higher flows during that time period
10 we have four of our five highest years of successful
11 recruitment of splittail.

12 Obviously, there's a large area in there
13 between about 7,000, 7,500 CFS and somewhere in the
14 14,000 to 15,000 range that we don't have data points
15 for. But again, here's another species that's
16 benefitting from these increased springtime flows.

17 In addition to those other species, as you've
18 heard from Jeff and probably heard in other
19 presentations, there are other needs for other salmonids,
20 Central Valley steelhead and potentially spring-run
21 Chinook, as they are reintroduced to the area through the
22 San Joaquin River Restoration Program. I hope I've shown
23 a little snapshot of what we believe our sturgeon needs
24 within the spring, but there are also sturgeon needs
25 outside of that window, as well as splittail and other

1 native fishes.

2 And so as with our colleagues that have
3 presented before, we agree that there should be
4 consideration of year-round needs of fish and how flows
5 will affect. Especially when adaptive management comes
6 to potentially making decisions about how you would
7 change things in the spring and how that might affect
8 water availability or operations in the rest of the year.

9 Additionally, building upon the comment that
10 was made earlier, the comments from both EPA and NMFS,
11 the downstream or ultimate fate of the water that is
12 released is crucial, both at Vernalis but also
13 downstream.

14 And here's a graph of this, I guess, kind of
15 balancing the line between Phase 1 and Phase 2 in our
16 mind, where we have long-term work that has gone on with
17 our office and several of our collaborators, related to
18 VAMP. And then survival studies after it where we have
19 coded-wire tagged fish released in the main stem San
20 Joaquin. The blue diamonds here are coded-wire tag
21 returns. The two red diamonds are fish that were
22 acoustically tagged in 2012.

23 This is flow at Vernalis measured when these
24 fish were released and estimated survival to Jersey
25 Point. So from the release point at Durham Ferry to

1 Jersey Point, and a few fish released as Mossdale,
2 through the Lower San Joaquin. And again the general
3 trend is that when there's a higher flow, upon release in
4 the lower main stem San Joaquin, we do see better
5 survival of these fish albeit still relatively low and
6 something we'd like to see higher.

7 So getting past and kind of on to the next
8 section, and this speaks more to our time with CVPIA,
9 thinking about goals and objectives. And I understanding
10 the things that are in Appendix K currently speak to
11 specific objectives, whether numeric versus whether
12 narrative. But we have both of those in CVPIA. And I
13 can tell you from experience, our program could tell you
14 from experience, that trying to compare narrative goals
15 is challenging. Especially when you bring in multiple
16 potential beneficial uses whether those are fish-related
17 or any other beneficial use.

18 When it comes to make decisions about
19 alternatives, not having potential numeric targets or
20 goals to weigh the pros and cons against, is an extremely
21 challenging endeavor. That goes beyond just comparing
22 and accountability when it comes to reporting. And it
23 goes to real-time tracking. It can be extremely
24 challenging and ineffective to determine how effective
25 your decision may or may not have been without some

1 numeric target to track toward.

2 And again, as has been mentioned previously, at
3 this point we think that the narrative salmon protective
4 objective, or the CVPIA doubling goal in our world, that
5 is reflective of what's proposed in the revised SED of
6 the 40 percent unimpaired flow, will be very challenging
7 to meet.

8 We certainly believe that a move towards
9 recovery and better conditions is there, but we've done
10 modeling in the past. A report from AFRP in 2005 for the
11 three tributaries showed our estimates to show what it
12 would take to see a 53 percent increase towards the
13 doubling goal. So think of it as just slightly over half
14 of doubling. You'll see in wet and above normal years,
15 we're in the 30s, up towards 38 percent on the Stanislaus
16 and Merced in an above normal year. We get beyond that
17 and we start to see, at least from our modeling results,
18 unimpaired flow rates that would be required at 50
19 percent and above, up towards 60 percent like we've heard
20 from other folks that have done these analyses, to truly
21 move towards the doubling goal.

22 And so while we understand the need to balance
23 benefits to all of the different things being considered
24 by the Board under this SED, we also want to convey how
25 important it will be to think about how this 40 percent

1 of unimpaired flow is utilized and how flows may be
2 crafted to receive the maximum benefit if we are truly
3 going to see a move towards doubling.

4 VICE CHAIR SPIVY-WEBER: And are you
5 considering the habitat enhancements that -- the use of
6 these flows for habitat enhancement. Is that what you're
7 referring to?

8 MR. RATCLIFF: Absolutely. I mean at this
9 point in 2005 -- and so things have changed -- we would
10 need to update this to give you our current estimate of
11 real numbers. That was with the habitat work that had
12 been done by our program and others at the point. And
13 the assessment of other areas that would be activated by
14 flow releases that aren't active habitat restoration.
15 There's been work done since then that we would need to
16 incorporate.

17 Obviously, the bread and butter of our program
18 is to continue to work on habitat restoration and so we
19 very much appreciate through the hearings, hearing that
20 folks believe, a lot of folks believe that a combination
21 of flows and habitat restoration, are really what is
22 needed along with addressing other potential limiting
23 factors. But at this time yes, this basically was real
24 time in 2005, so these numbers would have changed some
25 certainly.

1 MR. MOORE: And I'm interested in this table
2 too, because it relates to a lot of our discussion and
3 comments we received about the critical years being so
4 stressful and difficult for the water supply perspective.
5 And yet here you indicate it's really important for the
6 fish, but how much can we take this sort of off the
7 linear scale?

8 And you don't have to answer this now, but this
9 came up with some of the NGO comments. Does it make
10 sense in critical years to move to more of a triage
11 approach and not a hard percent unimpaired flow approach?
12 Here it's, "Oh, look at the benefits for the salmon
13 doubling." But isn't it true, that's not when salmon
14 double. That's when salmon lay low. Maybe hang in the
15 ocean for that year, because of no pulse naturally would
16 come.

17 So I just want to maybe encourage you in your
18 comments to think of creative ways that we can do
19 effective fish management through the critical years
20 without maybe having such a big water supply cost.

21 MR. RATCLIFF: Absolutely.

22 MR. MOORE: Thanks for that.

23 MR. RATCLIFF: I just also wanted to show that
24 this is an example of where we've moved our narrative
25 doubling goal very similar to your salmon protection

1 objective. Two numbers, both for Central Valley-wide,
2 which you have on the left here for all of the species
3 and runs of Chinook that we work with, the CVPIA. And
4 then just a snapshot, this is not the full table, but we
5 have those targets natural production targets by
6 watershed.

7 So the number that was shown there in the EPA
8 presentation was the combination of those bottom three
9 numbers, that 78,000-ish fish that would need in the San
10 Joaquin Basin for doubling comes from the Stan, Tuolumne
11 and Merced.

12 And so this is just to show you that we really
13 had to go here early on to be able to report tracking, to
14 be able to analyze what we might do in one watershed over
15 another, and we do this Central Valley-wide. And I think
16 that as Phase 2 rolls out this is something that we're
17 going to want to think about if we're going to really be
18 able to incorporate adaptive management.

19 So finally I wanted to hit just a little on
20 adaptive management, and again we're in the middle of
21 this process at CVPIA, so it's near and dear to our heart
22 right now. At least you're not doing it with a 20-year-
23 old program. We're having to change horses in mid-
24 stream. And it makes an interesting extra layer.

25 At its face, adaptive management looks awful

1 simple to a lot of folks I think. And this is a very
2 simple diagram that comes from our Department of Interior
3 technical guide on adaptive management. And the idea is
4 that you identify a problem, you design something to fix
5 that whether it's a specific project or a program, or a
6 plan. You go and implement that, monitor it, evaluate
7 the data you've got in front of you and adjust how you
8 manage.

9 But it's a lot more complex than that. And
10 every one of those circles requires an awful lot of
11 effort. And the reason that I brought this here today
12 was to tell you that for those of us in the room that are
13 scientists and are exposed to adaptive management early
14 on, we think about this from how it's implemented as a
15 scientist, right? How you would design your project,
16 your monitoring plan, how you would pay for and collect
17 data. How you would analyze that data and how you would
18 turn that analysis into something you can give to a
19 manager to help him make a better decision.

20 But I'm learning right now, in real time, with
21 CVPIA, that there's a whole other circle to this and
22 that's the governance and the logistics of it. And
23 especially as you get into a large program and move away
24 from adaptive management on a small scale, you have to
25 think about the time and the resources. And so starting

1 with measurable goals and objectives from the front end,
2 narrowing the decision space, realizing that a huge part
3 of adaptive management is to foster creativity. And to
4 be able to analyze different proposals and decide what
5 you think will help you best achieve your objectives and
6 lean from that and adapt through time is extremely
7 important.

8 But what we learned at CVPIA, I think in the
9 last four years -- the last two years extensively where
10 we put in an awful lot of time and resources and we've
11 had an awful lot of partners that have come to speak to
12 you, a lot of the same folks participating in our
13 processes -- is that without having some of that
14 governance and some of those larger 30,000-foot level
15 sort of side boards and general objectives on the plate
16 for those folks to help narrow their decisions base,
17 we've spent an awful lot of time and resources with those
18 folks.

19 And so we've come an awful long ways in two
20 years, but I think that this is something that we felt
21 like in our review of SED really stood out to us. That
22 we would urge you to think about how you work with the
23 Board or through other folks, to give the SED and working
24 group and other folks who'll be helping you, devise and
25 implement this adaptive management plan some sideboards.

1 Something more about objectives that you really want them
2 to consider when developing the models and the decision
3 process and how they might implement an adaptive
4 management program.

5 MR. MOORE: Yeah, certainly we have language in
6 Appendix K that starts toward this correct staffing. I
7 mean, we look at within six months of adoption the Bay-
8 Delta Plan Phase 1, we would have biological goals
9 established. Is that in --

10 MR. GROBER: That's correct, yes.

11 MR. MOORE: Is that consistent with what he's
12 talking about here?

13 MR. GROBER: Yes. And to recognize the
14 importance of having a numeric goal as well, as opposed
15 to just words.

16 MR. MOORE: Right.

17 MR. RATCLIFF: And we were very pleased to see
18 that. We very much support it. It's ambitious. And so
19 we would love to work with you and help on where our
20 processes -- and if we can share some lessons learned and
21 help each other out, fantastic. It's very noble to want
22 to manage programs these ways. It's also very hard.

23 So finally, the general recommendations that
24 you will see in our letter are to, "Consider fish and
25 habitat flow related needs for all of the native species

1 throughout their life cycles." And we feel this has been
2 done fairly well in the SED. There's been an awful lot
3 of work done here and we appreciate that. But we do have
4 some other species that we do think some recent work has
5 shown will also likely be impacted, and in many cases
6 benefited, by implementation of this objective and
7 exactly how it's been implemented. And should be
8 considered when we're thinking about adaptive management
9 for the system, not just for any of the individual
10 species or runs.

11 Secondly, to think about where we can, "Define
12 measurable goals and objectives," more. To really jump
13 start where we can jump off with our partners on adaptive
14 management and further define the process, the governance
15 as much as possible, and the decision space that folks
16 might have in that. I think hopefully, we will be in a
17 lot of the same situation that Jeff said for NMFS, other
18 than with through CVPIA we have local habitat restoration
19 coordinators that would very much want to be involved in
20 the process. But our ability to expend those resources
21 and assist would be greatly improved with a little more
22 guidance on the front end, I think.

23 So with that, I'll -- this is a San Joaquin
24 River sturgeon. And if you're less than 29 years old in
25 this room, this fish is older than you, just over eight

1 feet.

2 VICE CHAIR SPIVY-WEBER: Go ahead, Dean.

3 MR. MARSTON: Good morning, Board members and
4 Board staff. My name is Dean Marston. I'm an
5 Environmental Program Manager and oversee our fisheries
6 projects in the central region and I'm headquartered out
7 of Fresno. And one of the projects I oversee is our
8 Lower San Joaquin River and San Joaquin River Tributaries
9 Anadromous Fish Restoration and Research Project.

10 We acknowledge that this has been a long and
11 trying process for you all and that you have a difficult
12 challenge before you to balance competing beneficial
13 water uses. That said, as the trustee agency for
14 California's fish and wildlife resources, and we're
15 charged with conserving them for future generations,
16 we're compelled by the science that's been brought
17 forward to date to conclude that the San Joaquin River
18 ecosystem and the south Delta ecosystem is in decline and
19 that change is needed. And that we agree with the SED
20 that a revised flow regime is needed.

21 Reduction and flattening of the San Joaquin
22 River's hydrographs have altered the physical, chemical
23 and biological characteristics of the San Joaquin River,
24 and its tribs. And have created habitat conditions that
25 have compromised anadromous fish by making them sick,

1 injured, unhealthy and susceptible to predation.

2 Reduction and flattening of the hydrographs has
3 favored the proliferation of non-native species,
4 substantially contributive to the decline in anadromous
5 fish population abundance, making these populations non-
6 resilient to stochastic mortality events, such as ocean
7 conditions.

8 A return to a more natural flow regime
9 hydrology would reverse these trends and could preclude
10 the need to develop a TMDL for water temperature
11 impairment, which is now legally required given a water
12 temperature impairment listing.

13 A more natural flow regime would help support a
14 portfolio effect for fry, parr and smolt contribution to
15 adult production via a presentation that was given to you
16 by Dr. Sturrock and Dr. Johnson earlier in this workshop
17 process. And adding more adults being produced in the
18 San Joaquin would actually level, if you will, or more
19 level the adult Chinook production in the fall -- overall
20 Central Valley fall-run ESU.

21 And lastly, a natural flow regime would create
22 a boost in natural production thereby reducing the need
23 for hatchery fish.

24 MR. MOORE: Before you go on, this is the first
25 that the TMDL issue's been raised in the five days, could

1 you quickly tell us which reaches and are they proposed
2 listings or just listing for temperature impairment?

3 MR. MARSTON: They're existing listings for
4 temperature impairment. And on the main stem San
5 Joaquin, it goes from the confluence of the Merced
6 downstream to I want say Vernalis or Mossdale, I forget
7 the exact demarcation. And then each of the three tribs
8 on the Merced, the Tuolumne and the Stanislaus River, it
9 goes from the lower rim down, down to the confluence.

10 Regarding implementation, implementation should
11 be based on a systematic watershed-based approach and
12 should focus on achieving connectivity between tributary
13 watersheds and the Bay-Delta to protect anadromous and
14 non-anadromous native fish species.

15 Regarding monitoring, a strong effective
16 monitoring program will be indispensable to managing and
17 evaluating implementation. Progress towards goal
18 attainment is needed and a comprehensive monitoring
19 program is a pathway to accomplish this.

20 Regarding adaptive and collaborative
21 management, the Department supports collaborative
22 adaptive implementation of a block of water. Recognizing
23 that there is a distinction between annual real-time
24 operations and longer-term adaptive management.
25 Decisions on use should be tied to achieving biological

1 goals and objectives and be coupled with effectiveness
2 monitoring.

3 Regarding strengthen decision making, decisions
4 on implementation of flow, say percent of unimpaired flow
5 and non-flow, should be tied to achieving clearly defined
6 fish and wildlife narrative objectives. This includes
7 decisions on adaptive adjustments to the February through
8 June time period. That includes flow shape by, for
9 example, percentage of unimpaired flow and also flow
10 shifting.

11 Regarding governance, the Department supports
12 flexibility and alternatives to the STM work group where
13 there are voluntary agreements in place. The Department
14 supports strong leadership and facilitation by the Board
15 for the STM work group including such things as early
16 establishment of the STM group, i.e., within 180 days of
17 the adoption of the amendment. And development of
18 government structure like operating rules -- how it's
19 going to operate, timing for products, things like this.
20 Also, focus participation of the STM so that the group
21 remains affective or to consider subgroups or forums to
22 allow additional stakeholder and water user involvement.

23 Lastly, require use of biological goals to
24 guide and inform adaptive management. It's a common
25 theme that you've heard here this morning.

1 Regarding voluntary agreements, the Department
2 appreciates that the Board recognizes the efforts to
3 secure collaborative voluntary agreements. Voluntary
4 agreements should accelerate implementation while also
5 increasing the synergies of individual actions both flow
6 and non-flow throughout the watersheds, according to an
7 agreed upon schedule of implementation.

8 Regarding the Board's use of SalSim, we
9 acknowledge and recognize the Board used SalSim and found
10 issues, that is in better stated errors resulting in less
11 fish than would be expected given empirical data. And I
12 as the Project Manager for the Department would like to
13 apologize to the Board for the fact that this model does
14 in fact have a couple of errors. I'm going to take
15 ownership here. So we found that the egg mortality is
16 excessive, it was killing off eggs in the fall during the
17 spawning time period only over a few days. And it should
18 have been occurring over a much longer time period, say
19 two weeks to a month.

20 So that calculation in the model has been
21 fixed, if you will. It's corrected to behave as it
22 should given the underlying empirical data that was used
23 to inform that mathematical calculation.

24 Then in the spring, juvenile mortality was
25 insufficient, because flow level was overriding the

1 effects of temperature. So that was also fixed and
2 errors have been corrected and the detail of this will be
3 provided to the board in our comments here in mid-March.
4 We've recalibrated the SalSim model. And again the
5 detail will be provided in our formal SED comments.

6 This is a graph showing Mossdale water
7 temperatures amongst other things. And there's a lot of
8 information here. And this comes from the Board's HEC-5Q
9 water temperature model. And basically what you see,
10 it's kind of hard for the colors here, but you'll see the
11 sinuous lines showing water temperature prediction at two
12 places, Vernalis and at Mossdale. And the purple line,
13 the elevated line for temperature on the right axis --
14 and this is for the baseline Board's model run -- and it
15 shows that temperatures can exceed 100 degrees Fahrenheit
16 during the February through June time period.

17 And then on the left y axis, looking at flow in
18 cubic feet per second, you'll see a green line that kind
19 of moves up and down a bit between 0 and 5,000, say at
20 the 2,500 CFS range for the years January of 2000 to
21 about the end of 2004 -- excuse me -- end of 2003. And
22 then basically it bottoms out to near zero. So the flows
23 in this particular baseline at Mossdale go to near zero.

24 And all at the point that I wanted to make here
25 with this is that the HEC-5Q water temperature model

1 provides the inflow and the water temperature data to run
2 SalSim. So if the flow data and the temperature data are
3 inaccurate, then by default regardless of the issues I
4 said earlier with SalSim, SalSim's error is going to be -
5 - the output is going to be in error as well.

6 So I don't want to belabor this, other than to
7 say that in the process of developing decision support
8 tools, finding and fixing bugs is a standard operating
9 procedure. That's just how they go, you know? Our cell
10 phones, our software, we're getting patches all the time.
11 It happens. Do we want it to happen? No, but we fix it,
12 we find it and we fix it.

13 So a combo of elevated water temps and reduced
14 flows at Mossdale, a lack of results and substantial
15 juvenile salmon mortality for not only salmon entering
16 the Delta, but also for salmon survival through the
17 Delta. And adult salmon production estimates as I said
18 are likely substantially lower than they should be, given
19 the factors that we've just discussed.

20 So there's been some talk about the importance
21 of June flows. So what we have here, a lot of action
22 going on here, but what we have a graph depicting on the
23 x axis the period of time in early April 2011 through the
24 end of June 2011. And then on the y axis estimated
25 juvenile Chinook salmon catch at Mossdale. And this

1 represents the -- we heard some comments earlier about
2 the District's rotary screw trap. Well, the Department
3 has been conducting a Mossdale/Kodiak trawl to develop an
4 index of outmigrating fall-run Chinook salmon juveniles
5 for the period April through June, for the past 30 years.
6 And we see here in this particular that there's a big red
7 box over there and you can see the caption for yourself.
8 The smolts leave the San Joaquin River in June when flow
9 is provided.

10 And then just in the red there, it might be
11 hard for folks to see, but just remember the juvenile
12 portfolio effect described by Drs. Rachel Johnson and Dr.
13 Anna Sturrock in that all life states are important.
14 We're trying to protect the genetic integrity of fall-run
15 Chinook salmon.

16 And just as important, and maybe not more
17 important for fall-run, is late fall-run. Because they
18 come in and spawn in the San Joaquin River tribs in say
19 the late December/January time period. And given five or
20 six months for the eggs to hatch and juveniles develop
21 and out-migrate out they're fallen right in to this June
22 time period. So it's critical for this species of
23 Chinook salmon.

24 And then here's another example of a wet year,
25 in 1999. I don't want to belabor the point other than to

1 say that in June, we still have a fair amount of
2 juveniles outmigrating from the San Joaquin River tribs
3 making it to Mossdale, and are captured here and depicted
4 here in our graphic.

5 And then lastly, I just want to say that this
6 is basically the trend. When we have more San Joaquin
7 River tributary flows in the spring, we get more juvenile
8 salmon entering and exiting the Delta, which leads to
9 more salmon production. Does it happen every single
10 year? No. We get things like ocean crashes, but the
11 data collected to date indicates that probability is, is
12 that when you have more spring flow, you're going to have
13 a greater number of juveniles. And when you have a
14 greater number of juveniles, they're going to survive at
15 higher rates, to and through the Delta. And we're going
16 have more adults being produced for ocean fisheries and
17 then for escaping spawners to come back to spawn in the
18 fall.

19 So we might ask the question, is flow important
20 in light of the SED. Again, a busy graph here. On the x
21 axis we have a number of years, 1995 through year 2015.
22 And what it's depicting here is the naturally produced,
23 or wild produced, fraction of escapements. So this is --
24 the data for this is from the Department's fall-run
25 Chinook salmon escapement surveys in both the Tuolumne,

1 which is the red line, and in the Stanislaus, which is
2 the blue line.

3 And the way that we fractioned out on an annual
4 basis the number of wild fish or naturally produced fish,
5 versus the number of hatchery fish, is to take a look at
6 otoliths, the little ear bones from the fish after
7 they've spawned and died. Then we can capture them in a
8 survey, and then conduct analysis. And this analysis is
9 paid for by the Fish and Wildlife Service, conducted by
10 UC Davis, and also paid for TID.

11 And my apologies to Modesto Irrigation
12 District. I understand that they are they were also a
13 funder for the analysis of otoliths.

14 So what we have are basically three categories
15 here, looking up the y axis from the bottom to the top.
16 We had a wet-year period, a dry-year period, and then
17 I'll get to that far-right period in a moment. But
18 basically the Tuolumne Basin is twice the size of the
19 Stanislaus and had twice the annual runoff approximately.
20 And we see in wet years is that we get a response in
21 terms of natural production on the Tuolumne when the
22 Tuolumne's actually releasing water. And it far, far and
23 away exceeds the number of fish that are being produced,
24 those naturally produced fish that are being produced on
25 the Stanislaus.

1 And then we go into the dry-year period, to the
2 one in the middle, and we see that production crashes if
3 you will in both cases, but it's better on the
4 Stanislaus. And it's known that in dry years the
5 instream flow schedules on the Stanislaus are better than
6 on the Tuolumne or actually even on the Merced. And that
7 just has to do with the way the agreements have been
8 worked out through the years.

9 But there's been another interesting thing
10 that's happened over the last 20-to-25 years. And that's
11 depicted by that red dash line, which actually exceeds
12 into the far right, but just for illustrative purposes I
13 kept it where it is. And just to show that there's been
14 non-flow restoration actions that have occurred both in
15 the Stanislaus River Basin as well as in the Tuolumne,
16 but they have been predominantly being constructed in the
17 Tuolumne River Basin downstream of La Grange Dam. By the
18 order of tens of millions of dollars greater in magnitude
19 in terms of effort and expenditure and construction spent
20 on doing non-flow habitat restoration measures in the
21 Tuolumne.

22 So now I'm going to go to the far right column
23 there. So if non-flow actions are driving production
24 than that blue line that starts to rise in the more
25 recent time period should be red, not blue. But we find

1 the exact opposite. So the question is, "Well, what
2 happened?" So we looked at that to try to answer that
3 question. So I know there's a lot of words here. I just
4 go the graph itself and what it's depicting. And this
5 shows the years 2009 through 2015. And then again, the
6 natural salmon adult escapement on the right y axis. And
7 then you see the Tuolumne in the red and the Stanislaus
8 in the blue.

9 And these data are from FishBio Weir Count that
10 the districts pay for. And then again the on/off
11 analysis paid for by TID, Fish and Wildlife Service,
12 conducted by UC Davis, and also the Department of Fish
13 and Wildlife providing the otoliths. And again my
14 apologies to Modesto Irrigation District for not listing
15 them as a funder.

16 But we again asked ourselves well what happened
17 here? So we've effectively -- and you can see here,
18 I'll read them for you here -- so we effectively had in
19 situ experiment occurring in the SJR tributaries that
20 allowed us to evaluate emphasis on flow versus emphasis
21 on non-flow.

22 And we found that the Delta BiOp operation and
23 RPAs flow increases were implemented in approximately
24 2009. This effectively brought spring flows in the
25 Stanislaus to approximately 40 percent of unimpaired.

1 And we recognize that there's a little bump in production
2 in 2011 for the Tuolumne, which gave it some reprieve.
3 But otherwise the populations have generally dropped.
4 And I'm talking about naturally produced populations.
5 However the Stanislaus population has shown a steady rise
6 throughout.

7 So the take home is that these results indicate
8 that restoration actions have primarily focus on flow
9 improvements are by far out-producing those results
10 produced by emphasis on non-flow actions.

11 MS. D'ADAMO: Do you include the non-flow
12 measures that have been implemented on the Stanislaus?

13 MR. MARSTON: The --

14 MS. D'ADAMO: So on the Tuolumne you're looking
15 ---

16 MR. MARSTON: The answer is yes. We recognize
17 that non-flow actions have occurred on the Stanislaus.
18 But the actions that have occurred on the Tuolumne far
19 outweigh the amount of restoration action that's occurred
20 on the Stanislaus in the non-flow sense.

21 MS. D'ADAMO: And what non-flow measures are
22 you considering on the Tuolumne?

23 MR. MARSTON: Gravel reintroduction, floodplain
24 improvement, riparian improvement, gravel mining or
25 gravel pit fill-in. Those are the ones that come to mind

1 immediately. I mean, we could provide a whole list to
2 you in our comments and probably will.

3 MS. D'ADAMO: I would just -- I think we should
4 get maybe more information on this, because it's my
5 understanding that the non-flow measures that have been
6 implemented on the Stan, Honolulu Bar and I forget the
7 name of the other project, but they are successful, non-
8 flow restoration projects. And --

9 MR. MARSTON: And we are not -- if I might
10 finish, if you might -- we're not saying that they're not
11 successful. We're just saying that the non-flow actions
12 by themselves are not as productive as they could be in
13 the absence of flow increases. And that restoration
14 actions tied to a revised flow regime would provide a
15 multi-pronged approach to reverse a decline. But absent
16 an increase in flow they won't by the selves create
17 substantial improvements in anadromous fish populations.
18 Restoration actions augment flow benefits, but they do
19 not replace them.

20 MS. D'ADAMO: Right, so the projects on the
21 Tuolumne, I think, a couple -- one in particular that was
22 quite costly -- the Special Pool?

23 MR. MARSTON: SR9 and 10, Special Request 10?

24 MS. D'ADAMO: Right. I mean it is quite costly
25 to move the gravel into this area. And it seems that

1 that was not a very successful project, because the pool
2 is quite large. And there still maybe flow challenges,
3 but also predation hot spots in that area.

4 And so I guess I'm just pointing out -- I don't
5 know the answer to these non-flow issues -- but when I've
6 been out on both rivers the non-flow measures that were
7 implemented on the Stan have been -- and I've been out
8 there with representatives from the irrigation districts,
9 but also the NGO community -- that those are successful
10 non-flow projects. And on the Tuolumne not so much so.

11 And so I would expect through adaptive
12 management and some of the discussions hopefully that
13 you'll be having as part of the settlement discussions
14 and otherwise, that there'd be some lessons learned about
15 what types of projects might be the ones that you'd want
16 to focus on, in terms of the non-flow measures. And so I
17 don't know if this is an apples-to-apples comparison.

18 MR. MARSTON: In closing, the Department
19 appreciates the State Board's efforts. At the core of
20 the Department's interests throughout this process, as
21 the state's trustee agency for fish and wildlife, is the
22 undisputed fact that the Bay-Delta ecosystem is in
23 crisis. The Department will move ahead tirelessly to
24 work with the State Board and other stakeholders to
25 develop solutions to reverse current trends, while

1 reasonably protecting all beneficial uses of water within
2 the framework identified in the SED and proposed
3 amendments. Thank you.

4 MS. D'ADAMO: I have one more question.

5 VICE CHAIR SPIVY-WEBER: Sure.

6 MS. D'ADAMO: Okay. So I can't tell this slide
7 number, but the June flows -- one, two, three, four --
8 maybe back up five slides -- on the importance of June
9 flows.

10 So, and I do recall the testimony that Dr.
11 Rachel Johnson and Dr. Anna Sturrock provided and this is
12 an accurate quote, but there's other things that they
13 said as well. Mainly that it depends on the year type
14 and possibly on better monitoring to determine whether or
15 not the smolts are present as to whether or not June
16 might be an important use of water.

17 And so just looking at here what you're saying
18 on the importance of June flows, and we've heard a lot
19 about flow shifting, are you saying that this unimpaired
20 flow regime -- it would be best to implement it in June -
21 - to actually utilize the flows in June?

22 MR. MARSTON: I'm saying or depicting -- the
23 Department's depicting here that there is advantages to
24 fall-run Chinook salmon production by having flows in
25 June.

1 MS. D'ADAMO: Okay. So I'm trying to, you
2 know, I understand in a perfect world it sounds like what
3 you're saying is June flows are important. But my
4 question is if you were to have this opportunity for flow
5 shifting -- and you kind of have to rank at what time the
6 Department would recommend the use of the flows,
7 especially with carryover storage, et cetera -- would you
8 actually use June for those flows?

9 Or would you suggest to shift doing some --
10 using the unimpaired flow block of water from June
11 shifting it around to a different time frame?

12 MR. MARSTON: And you can imagine that's a
13 complicated question that you've asked and so the
14 immediate thought that comes to my mind is that it
15 depends. And it depends on a real-time management sense,
16 right? Because effectively what we're trying to do,
17 based on what we've seen in the past, is that we have a
18 population that crashes, all right? Crashes in every
19 dry-year period and rises up again in a wet-year period.
20 And what we're trying to do is reduce the crash that
21 occurs.

22 In other words dampen the peaks and also
23 shorten the duration between the two maximum development
24 time periods. So it could be that on -- yes, maybe when
25 a decision's made that we can forego flow in June in a

1 particular year, say a current year, by way of example to
2 accomplish some other biological objective that we're
3 trying to achieve. In order to keep the population from
4 crashing we may choose to do that.

5 And I can't think of one off the top of my
6 head, but the opposite decision might be made. You know,
7 it's maybe more important from a genetic integrity
8 perspective to allow a greater number of juveniles to
9 leave the basin in a particular year. And so therefore
10 June flows aren't important or we might decide that on a
11 late fall-run, we've got to have some June flows in a
12 particular year. So it depends.

13 MR. MOORE: Oh, I've got a --

14 VICE CHAIR SPIVY-WEBER: Go ahead.

15 MR. MOORE: Thanks. While I have the panel
16 here, in my travels to the different rivers and learning
17 about the different studies that have been conducted, I
18 thought it was compelling there's some developing science
19 around temperature tolerance.

20 And I asked Mr. Grober on November 29th, and
21 staff, if these temperature thresholds we're using, that
22 are often derived from science in the northwest, if they
23 were refined based on science in these tributaries, which
24 is the southern-most runs that may have more temperature
25 tolerance. Would some of the thresholds change in terms

1 of the flow needed to achieve temperature thresholds that
2 protect the salmon and achieve biological goals.

3 So and the answer was, "Yeah, sure. If those
4 thresholds change you don't need as much flow to meet
5 temperature, right, if the thresholds are higher." So I
6 just wanted to give you the opportunity to comment on the
7 state of the science on temperature tolerance in the
8 Stanislaus, Tuolumne, and Merced rivers and Lower San
9 Joaquin and what you think of it. And where that's going
10 and some problems with it that you see or some science
11 advancements that you're seeing.

12 MR. MARSTON: Well, I'm not a scientist, but a
13 little aware that that is hotly debated. And we haven't
14 seen any evidence to go with anything other than the
15 existing criteria we're using.

16 MS. FORESMAN: So I do know, well we have
17 encouraged, through our work with the Delta Stewardship
18 Council, getting more science for thermal plasticity.
19 Trying to really figure out what are the thermal
20 tolerances for Central Valley Chinook. And I think that
21 the temperature criteria you're referring to are EPA's
22 Region 10 temperature criteria that were developed in the
23 Pacific Northwest.

24 And we have a little bit of science on the
25 Central Valley Chinook and I think O. mykiss as well.

1 But it is just really starting to get going. The
2 temperature guidance that was developed in the Pacific
3 Northwest took ten years. It did all kinds of different
4 types of studies and the newer science that we have now
5 is using physiology and different tools then were used in
6 the Region 10 guidance. So I definitely think it's worth
7 exploring to figure out -- I certainly think it's worth
8 exploring to figure out is thermal tolerance for the
9 southern-most part of the range showing physiological
10 plasticity in these species? And trying to figure out
11 what are appropriate temperature bounds for each one of
12 the life stages that are important in this system.

13 So I certainly thing that that's worth looking
14 into, but I don't think it's a short exercise. It would
15 take many years and lots of different types of studies to
16 really come up with a range that you have confidence in
17 managing with.

18 MS. D'ADAMO: Well, that's a good question,
19 because I think TID in collaboration with -- I don't
20 remember who the science -- UC Davis?

21 MS. FORESMAN: It's Nann Fangué at UC Davis.
22 And if I'm thinking of the right study, and she's doing
23 temperature physiology studies with a new tool. You kind
24 of put a fish on like a -- it's almost like a little fish
25 treadmill, sort of thing. And you expose them to

1 different temperatures and you figure out their thermal
2 tolerance. And they did O. mykiss, so they did
3 steelhead.

4 And then we paid Nann Fangué to also look at
5 fall-run Chinook salmon and we used hatchery fish in the
6 laboratory. That's one of the reasons you really need
7 multiple studies, because well-fed fish in the laboratory
8 perform a lot better than starving fish in the river. So
9 and that's just one of the examples of needing to look at
10 different physiological metrics, such as growth and what
11 are egg tolerances, things like that. So that you get a
12 broad picture for each life stage to have a range that
13 you're confident is protective.

14 Did that answer your question about it? Okay.
15 Thanks.

16 MR. MOORE: Good answer, thank you.

17 VICE CHAIR SPIVY-WEBER: Any other questions
18 from Board members?

19 (No audible response.)

20 Great. Thank you very much. This has been
21 incredibly informative and I assume to the staff as well.

22 I will have four speakers: Abigail Warner,
23 Kevin O'Brien, Penny Frost and Michael Frost. If you
24 could come down to the -- to just be lined up.

25 Go ahead. Thank you.

1 MS. WARNER: Hello. My name is Abigail Warner
2 and I'm from Palo Alto. I'm here because throughout high
3 school and parts of middle school, I was given the
4 wonderful opportunity to spend time in the Bay-Delta
5 every summer with my nana and Sea Scout group learning
6 fishing and doing various activities. I believe the
7 Delta deserves to be preserved or at least conserved not
8 only for future kids like me, but for also for the fish
9 and ecosystem that resides in the Bay-Delta and the Lower
10 San Joaquin.

11 Now, I understand that agriculture is a huge
12 chunk of California's economy and is a large employer.
13 However, around 2,200 salmon farmers will lose their jobs
14 if the flow of the San Joaquin remains this low. It's
15 also important to note that the highly-feared
16 agricultural job losses would not be caused by allocating
17 more water towards the watershed, but instead would be
18 caused by those who could have saved thousands of jobs
19 and water by investing in irrigation technologies,
20 farming high-value water efficient crops, or implementing
21 numerous other strategies with long-term payoffs.

22 Everybody who was here today, or has voiced
23 their opinion past hearings, values the Bay-Delta and its
24 water at some significant level. No one wants the Delta
25 destroyed. The reallocation of water would restore the

1 watershed's proper chemistry diminishing the growth of
2 cyanobacteria and increasing oxygen levels allocating or
3 allowing the ecosystem to flourish and naturally maintain
4 its health.

5 These reasons, restoring the chemical balance,
6 lowering agricultural waterways, saving the salmon, and
7 preserving it for recreational use are why it is so
8 important to conserve this water source to the quality it
9 needs to be at by reallocating water towards it. Thank
10 you.

11 VICE CHAIR SPIVY-WEBER: Kevin O'Brien?

12 Penny and Mr. Frost, Michael Frost.

13 MR. FROST: Thank you. I read a book called "A
14 Short History of Progress," by Ronald Wright. It's a
15 very, very good book, highly recommended. He describes a
16 situation called a progress trap where innovations create
17 new problems to which society is unable or unwilling to
18 solve. Or, inadvertently create conditions that are
19 worse than what existed before the innovation.

20 Some progress traps that he went through in the
21 book, two of them were Sumer, current day Iraq, the
22 confluence of the Tigris and Euphrates rivers. And over
23 millennia a large irrigation system, overgrazing, and
24 land clearing resulted in desertification and soil
25 salination. So we take a look present-day Iraq, it is a

1 dry dusty desert. Thousands and thousands of years ago
2 it was covered with trees and it had a very fertile Delta
3 there. So there's definitely some parallels to
4 California.

5 Easter Island, another one, logging to make
6 statues and boats destroyed the ecosystem and lead to war
7 and collapse and everyone left the island.

8 Another one is the Aral Sea, the fourth largest
9 lake worldwide. The 1950s and '60s, Soviet agricultural
10 innovations allowed for the diversion of the two chief
11 water sources, two rivers, to grow cotton in the desert,
12 which sounds very similar to Kern and Westlands. The
13 Aral Sea experienced a 90-percent reduction in size and a
14 10,000 percent increase in salinity. And it's an
15 absolute ecological disaster today.

16 You know we're dealing with, in a larger scale
17 here, reductionist management. You know, forgetting to
18 look at the whole picture. So what we're asking today is
19 for the Board is to set policy to manage agriculture in a
20 living ecosystem. It's necessary to understand that
21 we're living and farming in the context of an estuary.
22 Working with nature instead of against it, will benefit
23 the region in the long term.

24 And recognizing Kern and Westlands and their
25 impact is imperative. You know we're dealing with the

1 southern Sierras all the way up to Mount Shasta is one
2 system. We like to break things up and look at little
3 pieces of them, and that's what we're doing today, which
4 is what we're doing. But it's important to take a look
5 at the larger picture.

6 And also take a look at, where are the
7 misaligned incentives? Which assumptions need updating?
8 We're dealing with a zero-sum game extinction levels of
9 Delta smelt, salmon, amongst others. Time is a variable
10 by which everything is measured. And what are we solving
11 for today? This quarter? This year or this decade?

12 Please, take a very long-term prospective,
13 multi-generational. Permaculture, dry farming, urban
14 rainwater capture, and other shared sacrifice will help
15 us maintain a healthy ecosystem.

16 VICE CHAIR SPIVY-WEBER: Thank you.

17 Penny?

18 MS. FROST: My name is Penny Frost. I enjoy
19 visiting the Bay-Delta Estuary to go fishing, see the
20 wildlife, and learn about life on earth. Today, the
21 numbers of fish are very low, extinction levels.
22 Something is badly wrong. I am asking this Board to
23 increase freshwater flows all the way to the ocean to
24 keep the fish alive.

25 We do not know the long-term costs of a further

1 degraded estuary and the fish extinction. Please make
2 the core freshwater flows a priority for my generation.

3 VICE CHAIR SPIVY-WEBER: Thank you. Thank you
4 very much.

5 (Applause.)

6 We'll take a break for lunch, but we will start
7 with -- I have about 60 cards of individuals who would
8 like to speak. And we want to hear from each of you. I
9 will intersperse these cards 10 at a time with panels
10 that are -- that will occur before us. But we will be
11 here late.

12 We will start at 1:00 o'clock precisely,
13 precisely at 1:00 o'clock, with Hap Dunning followed by
14 Terry Erlewine, Susan Stern, Bill Martin, Grant Wilson,
15 John Borba, David Braun, Kaylen Herbert, Tom
16 Schwertscharf, Kenneth Gibson. And if you could be --
17 put yourselves over right here, so that you can go right
18 up to the microphone, that would be very helpful.

19 Thank you. See you at 1:00

20 (Off the record 12:38 p.m.)

21 (On the record at 1:00 p.m.)

22 VICE CHAIR SPIVY-WEBER: I think we're ready to
23 get started.

24 I see that Hap is here. We have Hap Dunning
25 followed by Terry Erlewine, Susan Stern, Bill Martin,

1 Grant Wilson, John Borba, David Braun, Tom Schwertscharf,
2 Kenneth Gibson, Stephen DeBerry -- who's going to take
3 two minutes -- and Carlos Martinez, who's also going to
4 take two minutes.

5 Then that will be followed by the California
6 Department of Water Resources. And then we'll go back to
7 more speakers.

8 MR. DUNNING: Well thank you very much, I'm --

9 VICE CHAIR SPIVY-WEBER: Be sure and announce
10 your name and your affiliation.

11 (Brief colloquy aside.)

12 VICE CHAIR SPIVY-WEBER: I'm sorry, Hap. All
13 these last-minute things, they don't take away from your
14 time. Okay, go ahead. Thank you very much, Mr. Dunning.

15 MR. DUNNING: I am Hap Dunning. I'm a Board
16 member for the Tuolumne River Trust. I'm here in that
17 capacity.

18 And I want to remind you of what a predecessor
19 Board did in 1994. Decision 1631, I'm going to mention
20 very briefly, because I see some strong parallels between
21 what happened back in the '90s and what you're trying to
22 do now. As I'm sure most people in the audience know,
23 1631 was about the restoration of Mono Lake. And you'd
24 had on the one hand, environmental groups pushing hard
25 for full restoration or close to full restoration. You

1 had a very powerful city, Los Angeles, resisting and
2 apprehensive about what the detrimental consequences
3 might be.

4 The Board reached what I regard as a
5 compromised decision in providing full restoration of the
6 lake to a certain level, but certainly not the level that
7 it was before the diversions. Some areas that were
8 important, waterfowl areas, were not to be restored under
9 the Plan.

10 But the point is, the point I want to make is
11 what the Board did was enough to put the lake on a good
12 restoration path. And most important of all Los Angeles,
13 this major city in our state, was able to make a number
14 of accommodations, so it wasn't really damaged by what
15 happened. They could accommodate more people with less
16 water -- I'm not going to go into all the things they did
17 -- but here's where I see similarities to what you have
18 today. You have environmentalists pushing for
19 implementation of what that study showed back in 2010, 60
20 percent unimpaired flow. You have others resisting,
21 understandably very apprehensive about what this might do
22 to San Francisco or to the agricultural districts.

23 But I think, as was the case back in the '90s
24 and the early part of this century, accommodations can be
25 made. This can be done in a step basis. And as you work

1 toward a much better environmental situation for the
2 river I think those now in opposition may be able to
3 adjust more than they realize. Thank you.

4 VICE CHAIR SPIVY-WEBER: Terry is -- has Terry
5 come back in?

6 MS. TOWNSEND: No, he is actually on his way.

7 VICE CHAIR SPIVY-WEBER: Okay. Susan Stern?

8 MS. STERN: Good afternoon. My name is Susan
9 Stern, I'm a Board member of the Tuolumne River Trust, a
10 former Board Chair of Camp Tawonga, one of the family
11 camps on the middle fork of the Tuolumne. I'm a hiker, a
12 birdwatcher, and a consumer of Central California's
13 abundant bounty of produce.

14 I'm very concerned about the health of the
15 complex ecosystem, which is the San Joaquin Delta fed by
16 its major Sierra tributaries. Canoeing with the Tuolumne
17 River Trust, many past Novembers I've witnessed the
18 crashing number of spawning of Chinook salmon in the
19 lower Tuolumne below La Grange Dam. In June I had
20 portaged my canoe, because of the invasive water hyacinth
21 near the confluence of the Tuolumne and the San Joaquin.

22 Every February I go bird watching at the
23 California Department of Fish and Wildlife area at
24 Grizzly Island. I worry about the health of the
25 ecosystem for the multiple species that rely on the

1 health of the Suisun Marsh. Some animals, like the
2 California Clapper rail and the Suisun shrew live
3 exclusively in that title wetland. Rare and threatened,
4 endangered species, include the salt marsh harvest mouse
5 and Peregrine falcon, California Ridgway's rail and
6 others.

7 I believe it's crucial that increased and
8 improved flows from the tributaries go into the San
9 Joaquin Delta. The current 20 percent unimpaired flows
10 from the Tuolumne is unsustainable for all. Chairwoman
11 Marcus has stressed that a 60 percent standard represents
12 what fish would have asked for if fish could talk. I
13 believe that would be ideal. However, I understand we
14 need to strike a balance for many interests for our
15 common good. The Bay-Delta is a public trust.

16 I would urge the Board to choose my preferred
17 goal of 50 percent unimpaired water flow. I believe we
18 can all make that work. Thank you.

19 VICE CHAIR SPIVY-WEBER: Thank you.

20 Bill Martin?

21 MR. MARTIN: Thank you. My name is Bill
22 Martin. I am a San Francisco resident since 1972 and a
23 customer of the San Francisco Public Utilities
24 Commission. During those years I have hiked, camped and
25 fished all over the Northern California watersheds. I've

1 fished the Tuolumne, I've hiked around Hetch Hetchy.
2 I've fished in the Merced and the Stanislaus. And I've
3 kayaked and fished throughout the Delta. I've paddled in
4 the Delta with otters, sea lions, with the sky dark with
5 migrating and cackling geese. In spite of all we do and
6 all that we continue to do, the Delta does hold on. Life
7 does continue, although at a fraction of its previous
8 levels.

9 Your proposal for higher flows in the Delta is
10 one step in helping this entire estuary. In the June
11 2016 election over 70 percent of Bay Area voters approved
12 Measure AA, a parcel tax of \$12 per parcel to fund
13 restoration projects in San Francisco Bay. That's over a
14 million votes. I don't see them lined up behind me to
15 speak today, but I hope that you'll consider those votes
16 as you make your decisions about the -- relative to the
17 SED.

18 Also, in July of 2014 the San Francisco Board
19 of Supervisors approved Resolution 288-14 urging
20 protection of the San Francisco Bay-Delta Estuary. And I
21 quote from that resolution, "The San Francisco Bay-Delta
22 Estuary helps to power the region's economic engines, is
23 the globally recognized symbol of our region, and its
24 health reflects on our region's capacities, values and
25 vibrancy." I believe that over 70 percent of Bay Area

1 voters would agree with that statement.

2 Some opponents claimed that habitat
3 restoration, including approved spawning gravels,
4 floodplain nurseries, would be enough to restore the
5 salmon populations. But as we heard earlier today that
6 myopic view ignores two critical elements. First, the
7 science is clear that higher flows are needed along with
8 those habitat restorations. And second, that salmon are
9 not the only endangered species that will benefit from
10 these higher flows. The entire estuary and all the
11 creatures that depend on them need these higher flows.

12 Please do all you can to make that happen.

13 Thank you very much.

14 VICE CHAIR SPIVY-WEBER: Thank you.

15 Grant?

16 MR. WILSON: Thank you, Board members, for this
17 opportunity to comment. My name is Grant Wilson and I am
18 the interim Director of Earth Law Center. We are a
19 nonprofit that advances legal rights for ecosystems and
20 species to exist, thrive and evolve.

21 Earth Law Center is concerned that the SED does
22 not adequately protect Bay-Delta water quality,
23 particularly as it pertains to aquatic species and
24 habitat. The SED recommends a flow requirement in the
25 San Joaquin River and its tributaries of 30 to 50

1 percent, with a starting point of 40 percent unimpaired
2 flow from February to June. But these flow requirements
3 are inadequate, both under the Clean Water Act and
4 ethically, as they represent another step towards the
5 extinction of numerous fish species.

6 Under the Clean Water Act state flow objectives
7 must fully protect beneficial uses. With their multiple-
8 use designations, flow objectives must support the most
9 sensitive uses, in this case fish and aquatic life uses.
10 Ecosystem and species needs cannot be balanced away. The
11 SED's flow requirement will fail to protect fish and
12 aquatic life, whether fully or reasonably.

13 According to the State Water Board's 2010 Flow
14 Criteria Report, an estimated 60 percent of unimpaired
15 flow in the San Joaquin from February to June would be
16 protective of aquatic life, fish and wildlife beneficial
17 uses. State and Federal Fish and Wildlife Agencies have
18 also testified that similar amounts are necessary to
19 restore fish populations.

20 However, the SED's flow requirements fall well
21 below this threshold and will predictably fail to correct
22 the continued decline of salmon and other fish species.
23 The SED itself explicitly recognizes that the Bay-Delta
24 is in an ecological crisis, yet it fails to put it on a
25 path towards recovery. In order to comply with the Clean

1 Water Act and protect the most sensitive beneficial uses,
2 the State Water Board must adopt flow criteria similar to
3 the recommendations of the August 2010 Flow Criteria
4 Report.

5 Additionally, many are calling for a minimum of
6 50 percent San Joaquin flow in order for salmon and other
7 species to have a shot at survival and we agree this is a
8 step in the right direction.

9 We are also concerned with the State of
10 Emergency Change Provision in the SED, which would likely
11 be used to further weaken these already inadequate
12 standards. With regards to drought we can no longer call
13 them emergencies and significantly weaken our
14 environmental protections. Droughts have always occurred
15 with regularity in California and will continue to
16 increase in frequency and severity as climate change
17 impacts worsen. We must treat drought and climate change
18 impacts on water as the new normal. And we must update
19 the SED to prepare for rather than succumb to these
20 challenges.

21 In sum, I urge the State Water Board to call
22 for revisions to the SED in order to restore flows and
23 protect the ecological health of our waterways. Thank
24 you.

25 VICE CHAIR SPIVY-WEBER: Thank you.

1 John Borba has graciously given up his space
2 and introduce yourself.

3 MR. ELTAL: Hicham ElTal, Merced Irrigation
4 District. I didn't mean to have to speak today, but
5 there was a couple of things that the Board brought up
6 and I would like to just clarify. One of the questions
7 was about the continuous drought, like multiple years of
8 drought. And yes, even without the SED in 2015 the
9 Merced Irrigation District had no diversions from the
10 Merced River. So it could have that impact and that
11 would be multiplied.

12 Another thing, for example, the median runoff
13 to the Merced River is about 850,000 acre-feet, which is
14 the smallest of the three tributaries. The total inflow
15 to these reservoirs in a critically dry year was like
16 200,000 acre-feet. So it's less than a quarter. And if
17 you have about 100,000 acre-feet of certain commitments,
18 be it riparian water, refuges, and other districts, so
19 basically you're left with about 17 to 18,000 acre-feet.

20 So to say that there's 60 percent that you
21 could still do something with, it doesn't mean that
22 you'll always have the 60 percent, because there's a
23 certain amount of water that you have to divert
24 regardless of the type of year. We have no way to say to
25 those folks that we provide water to, on their

1 commitments that, "It's a dry year. I can't give you
2 water." So basically, we rely on the storage from
3 previous years to supply water in any critically dry
4 year. There's not enough water in the river.

5 Another point that I want to bring up is the
6 SAFE Plan. I'm kind of disappointed that the SAFE Plan
7 was brought up in that fashion today, because it was
8 brought up on the base on flow when we have been saying
9 along, "It's not a flow only. It's flow and ecosystem,
10 the river system restoration."

11 (Timer beeps.) Man, that was three minutes?
12 Okay, can I finish? Can I ask you a question, Board or?

13 VICE CHAIR SPIVY-WEBER: Go ahead and finish.

14 MR. ELTAL: Yeah, so basically it's a
15 combination of things, it's not one. And by the way,
16 it's not less water than the FERC Environmental Impact
17 Statement, it's the same amount of environmental system,
18 it's not less than that plus other restoration.

19 And the other thing is we looking at your graph
20 that -- it shows the amount of escapement versus the flow
21 of how do you explain 2008, for example, it had a higher
22 escapement but less -- it was a critically dry year. And
23 also how do you explain the highest return out of the
24 salmon to the Merced River this year?

25 So all these things, I think they need to be

1 taken into consideration.

2 VICE CHAIR SPIVY-WEBER: Thank you.

3 MR. ELTAL: And one last point which also was
4 brought up today, just to kind of answer that, is there
5 is a capacity to the rivers to accept salmon. I mean,
6 there will be a point of diminishing returns. You could
7 dump all the water you want to, but there's only so much
8 room for spawning in the rivers even after you do the
9 restoration. So that's something that we need to look
10 at.

11 VICE CHAIR SPIVY-WEBER: Thank you. And you
12 were on a panel before, so you have gotten extra time.
13 Could you please fill out a blue card, so that we have
14 your name?

15 MR. ELTAL: I did. I did.

16 MS. D'ADAMO: So I have a question, probably
17 not for you to answer now, but because I'm really trying
18 to get the answer to this. So if you could take, in your
19 written comments to us, if you could take the last five
20 years of drought and compare your baseline conditions in
21 terms of your water supply allocations -- percentage of
22 reduction as opposed to inches, because I know staff is
23 looking at percentages -- so percent reduction under the
24 baseline conditions compared to the SED, the objective
25 that's contained in the SED, not with carryover, okay?

1 And what would that look like? So, in other words, in
2 one year if you had 20 percent what would it look like
3 with the SED without carryover and then with carryover,
4 each year in a row.

5 MR. ELTAL: Will do.

6 MS. D'ADAMO: Okay. And then the second
7 request is what percentage impact do the districts have
8 with -- does Merced have with June? What, of the overall
9 impacts, what percentage is contained in June? Thank
10 you.

11 MR. ELTAL: Will do, thank you. Sorry about
12 that.

13 VICE CHAIR SPIVY-WEBER: Thank you.

14 Terry, followed by David Braun. And just line
15 up right here. And then Tom, Kenneth, Stephen and
16 Carlos.

17 Hi, Terry.

18 MR. ERLEWINE: Thank you for letting me step
19 in. I represent the State Water Contractors, who are 27
20 water agencies that have contracts with the State Water
21 Project. We've commented on the first draft of the SED
22 on Phase 1 and we've commented on Phase 2 also.

23 We had three points that I wanted to bring up.
24 One of them was the concerns that we've raised in the
25 past about the appropriateness of using unimpaired flow

1 as opposed to functional flows. And what we've commented
2 on before is that for salmon and most fisheries that it's
3 really the functions that are provided by flow, things
4 like temperature, turbidity, nutrients that are the
5 primary drivers. And those are not directly addressed by
6 unimpaired flow. So that's the first point.

7 Second point, which is related to water quality
8 in the south Delta and the Phase 1 SED, does tend to
9 confuse impacts from the export projects with other
10 impacts. And there's water quality impacts in the south
11 Delta; a lot of those are occurring from local
12 degradation, inadequate flow. There's an implication in
13 many places that those problems are caused by the
14 barriers in the south Delta. And that's not completely
15 accurate. So that's a concern.

16 And the last one is a technical concern with
17 the SED that the groundwater impact analysis, I think,
18 really needs improvement. Ignoring the requirements of
19 SGMA that a long-term overdraft not be allowed and to
20 effectively allow -- provide that there would be long-
21 term overdraft that could continue. That's not an
22 appropriate assumption. And the analysis is not done to
23 identify what the effects, even if you did allow that
24 long-term pumping to occur, what would the effect on
25 stream flow be? And those effects are not identified.

1 There's existing analysis tools that are available:
2 there's groundwater models by the USGS, groundwater
3 models by the Department of Water Resources, those could
4 readily identify those impacts. And those were not
5 included in the SED and they really should be.

6 Thank you for letting me comment. I'd be happy
7 to answer any questions.

8 VICE CHAIR SPIVY-WEBER: And I assume you'll
9 send it in a letter with those points?

10 MR. ERLEWINE: Yeah.

11 VICE CHAIR SPIVY-WEBER: Thank you.

12 MR. ERLEWINE: That's what I forgot to tell
13 you, too. We will be sending a letter.

14 VICE CHAIR SPIVY-WEBER: Okay, great.

15 MR. ERLEWINE: Thank you.

16 VICE CHAIR SPIVY-WEBER: David and followed by
17 Tom. I don't see Tom standing up here or Kenneth. Oh,
18 there he is. Okay, good.

19 MR. BRAUN: Hi, good afternoon. And my name is
20 David Braun, I'm with a group called RootsKeeper. And I
21 want to thank you very much for allowing me to comment.
22 And thank you for your proposal to increase water flows.

23 It's my understanding that you did -- the Water
24 Board did an analysis in 2010 that called for a 60
25 percent flow. I would advocate for what your science

1 concluded, that would seem reasonable. If you run the
2 numbers I understand that upwards to 400,000 salmon used
3 to run in these rivers. With 1,000 now there in these
4 rivers we are looking at about a quarter of 1 percent.
5 That's collapse, that's a crisis. And I have much
6 respect for what you do. I know that you're under
7 immense pressures. But for the charter and the
8 responsibilities of this Board, I would say to be
9 considered a success, if this gets any worse you have
10 failed. I don't know how to say that nicely.

11 Also, worthy of consideration is that there is
12 a tree of life that is connected to this water flow, to
13 these fish, to this estuary, to all of the different
14 organisms. We get half of our oxygen that we breathe
15 from the ocean. I haven't heard anyone commenting or
16 talking about this, but these species go out and are food
17 supplies and live and breathe and are an essential link
18 in the food chain in our ocean, not just our estuaries.
19 How on earth can we say that we are leaders on climate
20 change if we can't even facilitate a reasonable amount of
21 good health in our own estuaries? Any growth has to be
22 sustainable.

23 Now, I hear lots of folks -- obviously it's a
24 very difficult situation -- that need water for various
25 uses for their lives. But any growth that's not

1 sustainable is short-term. And if we kill our oceans and
2 if we kill our rivers, so someone can have a job growing
3 almonds that we export to Japan for a super-high price,
4 then we have failed. Because that person will have that
5 job only until we run out of oxygen, until climate change
6 exacerbates the world, until our rivers and our oceans
7 are completely dead and we're eating Soylent Green.

8 This is where we're headed: 200 years, 300
9 years of society, we have not been living in these sort
10 of organized societies for very long. It's a very short
11 period of time and to do this much damage in such a short
12 period of time we are completely abdicating our
13 responsibility to leave this planet for the future
14 generations. And for that I implore you, 60 percent, no
15 less.

16 VICE CHAIR SPIVY-WEBER: Thank you.

17 Tom?

18 MR. SCHWERTSCHARF: Yeah. Hello, my name is
19 Tom Schwertscharf and I'm speaking in favor of increasing
20 water flows to protect fisheries. I'm a member of the
21 Sierra Club. I have past certifications from the State
22 of California for Water Treatment Operator Grade III and
23 registered Environmental Health Specialist. I was also
24 certified as a Water Quality Analyst Grade III by the
25 American Water Works Association. I currently volunteer

1 at a Salmon Habitat Restoration Project in Marin. And
2 I've sent you some more detailed things about the biology
3 and chemistry that I'm concerned about.

4 The one thing I wanted to point today was that
5 the -- let me just get this up here, okay -- one of the
6 groups that wasn't represented here today that's part of
7 the State of California is the California Bioassessment
8 Program. And I went to their last conference up in
9 Davis. And they've been putting together these programs
10 for the state for about 24 years. And I would urge
11 speaking with them, because they have some really great
12 recommendations about flows and duration for preserving
13 salmonids and other fisheries. And they're tied into the
14 food web, so they look at what are the fish eating, what
15 kind of condition do those species need? And so, adjust
16 the flows for that. So, I'd definitely get in touch with
17 them.

18 The other thing I'm concerned about is whether
19 you're diverting water through tunnels or you're
20 diverting it in other ways, it seems to me over the last
21 ten years or so that we've been talking about this the
22 broader scientific community has been kind of shut out.
23 And I know that I hear a lot of stuff about it, it's a
24 fair stakeholder process, but if you shut out this
25 scientific community that's not a fair process. And I've

1 seen that going on in the last ten years.

2 The final thing I wanted to say is it kind of
3 gets lost that San Francisco Bay is such an important
4 body of water. And we have tourism, we have fishing,
5 sailing, we have the shipping terminals. And we need a
6 healthy Bay to keep all of that going, so don't just
7 think about the Delta, think about the Bay also. Thanks
8 a lot.

9 VICE CHAIR SPIVY-WEBER: Thank you.

10 Kenneth?

11 MR. GIBSON: My name is Kenneth Gibson, I'm
12 from Oakland. I'm a customer of the East Bay Municipal
13 Utility District. This is the third of five Phase 1
14 hearings that I have attended.

15 First, let me say *Ahéhee', Ahéhee' lah*.
16 (phonetic) Thank you. Thank you very much for the
17 attentiveness you have shown to all the presentations and
18 the citizen speakers at these hearings.

19 In the mid-1950s when I was a young boy my
20 family moved to *Dinétaah*, the Navajo nation comprising
21 most of northern Arizona. At that time windmills were
22 scattered across the plain, drawing water from well
23 throughout the semi-arid land. The same technology is
24 used there today, drawing water from the same aquifers to
25 provide water for sheep and horses, occasionally to deer

1 and coyotes and to people, freely. The aquifers remain
2 useful and safe across the vast land. Please work with
3 the sister agencies of the state to protect the aquifers
4 through the state from being treated like dumps for
5 waste. Irrigation water and rainwater runoff could be
6 more naturally stored in this way throughout much of the
7 urban and agricultural state.

8 During the current drought I began looking at
9 the pricing structure of urban water. My professional
10 background is commercial lending and finance. Tiered
11 water rates could be used much more effectively to
12 provide potable water for essential household use at low
13 cost, while charging the full delivery cost of larger
14 volumes of water used for irrigation in gardens or
15 wherever. In fact, more and steeper tiers with better
16 comport, with core expectations than water rate tiers
17 reflect the cost of delivering water.

18 Fixed charges may make it easier for water
19 agency planning, but they are unfair. Tiered rates based
20 on employment could also be extended to commercial and
21 industrial water users. High-volume uses of water for
22 irrigation or certain industrial uses would thus be
23 incented to work with urban water agencies to make
24 maximum use of recycled water.

25 Tiered rates could also be applied to

1 agricultural lands. Again, the cost of irrigation water
2 for agriculture should not be based on the amount of land
3 you own, but on the number of jobs the farm provides. Of
4 course, rural delivery of water would continue to be much
5 cheaper than water delivered for urban uses. But it
6 should not be a free ride. For too many years I've seen
7 water sprayed high into the air over the Central Valley
8 fields on hot summer days. I've also seen water sprayed
9 into the air when it's raining. Central Valley fields,
10 like those in peoples' gardens, must be served water at a
11 high enough price that they will honor it and treat it
12 with respect.

13 I urge you on the State Water Resources Control
14 Board to declare new expectations for water use in
15 California. Natural agriculture will be protected. The
16 claims of First Nation peoples to preserve their cultural
17 fishing practices will be protected. And the state will
18 accommodate urban and rural population growth, not by
19 diverting evermore water from its natural purposes, but
20 by using less water much more wisely.

21 VICE CHAIR SPIVY-WEBER: Thank you.

22 Carlos Martinez for two minutes and then
23 Stephen DeBerry.

24 MR. MARTINEZ: Good afternoon Madam Chair,
25 members of the Board. My name is Carlos Martinez. I'm

1 the City Manager of the City of East Palo Alto. For
2 those of you that may not be familiar with the City of
3 East Palo Alto, we're a small community about 30 miles
4 south of San Francisco. To the north we're bordered by
5 the City of Menlo Park and to the west by the City of
6 Palo Alto. However, we're not the City of Palo Alto,
7 even though East Palo Alto is in the middle of Silicon
8 Valley, in the Valley of Wells. We are composed of a
9 minority and disadvantaged community. About 65 percent
10 is Hispanic, 15 percent approximately is African-American
11 and we have a good percentage of Pacific Islander, about
12 7 percent, and the rest are other races.

13 When the city was incorporated we received a
14 relatively small water allocation of 2 million gallons a
15 day. And we have been conserving, conserving, conserving
16 to the point that we are actually using about 43 gallons
17 per capita per day, which is much lower than the BAWSCA
18 region that uses approximately 60 gallons per capita per
19 day, or the state average.

20 Due to that the City Council had to pass a
21 Water Connection Moratorium last September. As a result
22 of it we have been processing, but we won't be able to
23 entitle a number of projects. Just to mention a few, we
24 have a couple of projects that are proposed that would
25 create 1.4 million square feet of space, which creates a

1 substantial number of jobs for our community. There is
2 the primary school. This is a project proposed by the
3 Zuckerberg Foundation that would provide quality
4 educational opportunities for low-income residents in
5 East Palo Alto. And not only that, but also support
6 health services, wrap-around services, for approximately
7 500 children to have better educational health
8 opportunities. All of that has been -- is impeded by the
9 limited amount of water.

10 And if I may just, to wrap up, the point is --

11 VICE CHAIR SPIVY-WEBER: Very quickly, very
12 quickly.

13 MR. MARTINEZ: -- yeah, the point of my
14 testimony is to urge the Board to consider these types of
15 impacts and also allow time for negotiative voluntary
16 agreements to take place, so that the SED goals are
17 achieved while mitigating the potential negative impacts
18 to minority and disadvantaged communities.

19 VICE CHAIR SPIVY-WEBER: Thank you.

20 MR. MARTINEZ: Thank you for your time.

21 VICE CHAIR SPIVY-WEBER: Stephen?

22 MR. DEBERRY: Hello, my name is Stephen
23 DeBerry. I run an investment firm called Bronze
24 Investments, which focuses on social-impacted investing.
25 We're in the business of supporting companies that have

1 products or services that have a positive impact on
2 lower-income communities, like East Palo Alto. Our
3 investment strategy we describe as an eastside investment
4 thesis. We're really working to address the fact that
5 East Palo Alto has such radically different life
6 experiences than, literally, the other -- if I had my
7 high-school quarterback arm I could still throw a rock
8 across the freeway -- to five times more jobs.

9 What I can tell you that I think is a non-
10 obvious but really important thing to understand, is that
11 in the middle of Silicon Valley where property prices
12 have gone up 75 percent in the last 6 quarters, 18 months
13 or so, East Palo Alto is basically the only community
14 that has undeveloped land. And in a market that is
15 spiking the way it is you might ask yourself, "Why is no
16 one developing property in East Palo Alto?" The reality
17 is -- and I'm living this reality, you can go into East
18 Palo Alto, you can invest the capital to buy land. You
19 could invest the capital to build a building. What you
20 can't do is get an occupancy permit from the Fire
21 Department, because there's not enough water to flush
22 toilets, have people wash their hands.

23 And this matters. It's not just about real
24 estate, but ultimately what it is about is the jobs that
25 would come with those buildings. And in a community like

1 East Palo Alto that's struggling to increase its property
2 tax base. And to keep the people of color who have been
3 in that community there instead of being pushed out of
4 what is arguably the most, the deepest economic
5 inflection point in human history, we need to have more
6 water, so that we can build and bring in the kinds of
7 companies that will give job access to the folks who are
8 already there in that community.

9 So look, I'm a fisherman. I'm a patriot of the
10 state. I love the outdoors and support everything that's
11 been said, but I want a full consideration of the species
12 including the people in East Palo Alto.

13 So, I'd urge you to consider and support this
14 negotiated settlement.

15 VICE CHAIR SPIVY-WEBER: Thank you.

16 MR. DEBERRY: Thank you.

17 VICE CHAIR SPIVY-WEBER: Next will be the
18 California Department of Water Resources.

19 And then we'll follow that with 10 more people,
20 but I have an offer. For those who are willing to speak
21 for just one minute, you can line up here and speak for
22 that minute and jump the queue. So, if anyone is willing
23 after the Department of Water Resources makes their
24 comments, please line up.

25 Go ahead. Thank you, Mark?

1 MR. SALLABERRY: Good afternoon, my name is --

2 VICE CHAIR SPIVY-WEBER: No, no, no --

3 MR. SALLABERRY: -- is Joe Sallaberry. I am a
4 farmer from Turlock. And I bought my farms, one of them,
5 in 1965 and the other one in 1983. And I struggle. I
6 mean it was hard to make my payments, so I started doing
7 pump work. And I did night work, service work, 24-hours
8 a day for 35 years. I made the payments on my ranch,
9 both of them paid for. It'll be three years ago I made
10 my last, final payment. Now, when I bought those ranches
11 I didn't see in my deed anything that says that you guys
12 own my water, EPA own my water. I didn't see any of that
13 in my deed.

14 And you really guys, think that --

15 VICE CHAIR SPIVY-WEBER: Are you speaking for
16 one minute? If you are, then you should sit down. Thank
17 you.

18 MR. SALLABERRY: Okay. Let me -- that guy --
19 the environmental demonstrator, he took quite a while.
20 So let me finish it?

21 VICE CHAIR SPIVY-WEBER: Okay. Finish it.

22 MR. SALLABERRY: -- let me finish it, because
23 you've got something to hear. This is getting ridiculous.
24 You guys are getting like a runaway truck without brakes
25 going down in the hill. This is unreal.

1 VICE CHAIR SPIVY-WEBER: Okay, thank you.

2 MR. SALLABERRY: This has got to stop.

3 VICE CHAIR SPIVY-WEBER: And could you give
4 your name to the court reporter?

5 MS. TOWNSEND: We already have it.

6 VICE CHAIR SPIVY-WEBER: Oh, we have his name.
7 Okay, that's very good. Thank you so much, sir.

8 And now we will hear from the Department of
9 Water Resources.

10 MR. SALLABERRY: How would you guys like to pay
11 60 percent of your wages to support this, because that's
12 exactly what you're trying to take out of my paycheck.

13 VICE CHAIR SPIVY-WEBER: Okay, thank you.

14 MR. SALLABERRY: Sixty percent, would any of
15 you guys want to pay 60 percent of your paycheck? If
16 that guy in there wants to pay 60 percent of his paycheck
17 to support this --

18 VICE CHAIR SPIVY-WEBER: Thank you. Thank you,
19 thank you, thank you.

20 MR. SALLABERRY: -- because that's exactly
21 what you are asking for me.

22 VICE CHAIR SPIVY-WEBER: Could we have -- could
23 you -- from the Department of Water Resources?

24 MR. SALLABERRY: Let me give you my card.
25 You're welcome to call me anytime.

1 VICE CHAIR SPIVY-WEBER: Okay.

2 Go ahead.

3 (Colloquy off mic to set up panel.)

4 MR. HOLDERMAN: Good afternoon Vice Chair

5 Spivey-Weber and members of the Board. My name is Mark

6 Holderman. I'm the Chief of the South Delta Branch in

7 the Bay-Delta Office of the Department of Water

8 Resources. And I'll be presenting today, a brief summary

9 of the key topics of interest to the Department, which

10 will be also detailed in our written comments that we're

11 providing by March 17th. And I'll see if this clicker

12 works.

13 (Colloquy re: presentation setup.)

14 VICE CHAIR SPIVY-WEBER: If you don't mind,

15 I'll call a couple of public? For those who want to

16 speak for just one minute, we would love to hear you.

17 But be sure and slowly say your name and your

18 affiliation.

19 MS. LASENSKI: Elizabeth Lasenski, Davis,

20 California. I'm here on behalf of the salmon and the

21 other fish.

22 I just want to say that the salmon are

23 essential to the environmental quality of the Delta. And

24 actually to consumers like myself, they're very

25 important. And according to the 2010 State Water Board

1 Report, 60 percent of unimpaired flow between February
2 and June would be fully protective of fish and wildlife.
3 And I urge you to go with the science and respect the
4 science and go with that recommendation. Thank you.

5 VICE CHAIR SPIVY-WEBER: Thank you.

6 MS. SCHUELER: I'm Margo Schueler. I'm
7 speaking for myself as a retired pipeline construction
8 superintendent for one our major metropolitan water
9 companies. Ten percent of the water, in this state it's
10 considered a good record in the urban infrastructure if
11 only you're losing ten percent through leaks. The
12 infrastructure crisis is sucking our rivers dry.

13 If we fix the pipes, renew our infrastructure
14 and make the investment in our urban distribution systems
15 we don't have to have this argument about the rivers and
16 taking more water out of them.

17 Thank you.

18 MS. SILVA: Hello, my name is Alyce Silva. I
19 am a member of the Denair FFA and I am currently serving
20 as the Denair Chapter Historian. We are located in the
21 Stanislaus County and agriculture has an immense impact
22 on all of our lives in the community.

23 I was born into a agricultural family and have
24 been raised around the ag community my entire life. My
25 dad and his siblings owned a family dairy and it was sold

1 two years ago. Since selling, my dad has worked for
2 another family-owned dairy/farm. The dairy has two
3 sites, each around 2,000 cows, with a total of about
4 4,000 cows between the two sites. Along with the cows
5 this family has many acres of land that are used to grow,
6 which is necessary, to feed the animals.

7 If the proposed Plan takes effect we are forced
8 to send more water into the Bay-Delta for fish and
9 wildlife use. Many families will suffer. Not only will
10 people like my dad be in danger of losing their job, but
11 prices are going to skyrocket. If we are not able to
12 grow our crops locally, because of a shortage of water,
13 we are going to have to import the crops from foreign
14 countries. This will increase costs for farmers all
15 over, which will in turn require them to raise their
16 prices in order for them to see a profit and be able to
17 pay their employees with feed -- and their families.

18 This price will increase direct affect to
19 consumers. We will see prices for meat, fruits,
20 vegetables and nuts, and any other agricultural related
21 products -- if the Bay-Plan Delta goes into action, we
22 will all be left struggling for the sake of a few fish.
23 Thank you.

24 VICE CHAIR SPIVY-WEBER: Thank you.

25 MR. PROCK: Good afternoon. My name is Bryson

1 Prock and I am the current Vice President of the Denair
2 FFA Chapter at Denair High School. Denair is a small
3 community, on the outskirts of Turlock. Our small
4 community is big on teamwork and everyone carrying their
5 own weight. I saw this firsthand as one of the only 16
6 young men who played on our varsity foot football team,
7 that at one point played a game with only 12 players and
8 won against teams twice or three times our size. We'd
9 held them scoreless. How did we do this? Teamwork.

10 I represent the third generation of my family,
11 who works in our family dairy, hay, and beef cattle
12 business. Together my family overcomes great challenges
13 and obstacles such as low prices, labor challenges, or
14 other regulations you propose. How do we do this?
15 Teamwork. What your staff has proposed is a one-sided
16 approach to solving a multidimensional water framework
17 within our expansive state. There is no teamwork. And
18 this Plan is all about forcing farmers and communities
19 into doing things the way you want them done.

20 My dad has often been heard saying, "If we all
21 row the boat together, we will get where we want to go
22 faster. If we all row on our own, all we will get is
23 choppy water." Please quit rowing on your own and row
24 together with our communities.

25 Teamwork is more -- is how we move mountains,

1 so please join the team whose lives depend on agriculture
2 and let's work together to make California great again.

3 VICE CHAIR SPIVY-WEBER: Thank you.

4 Now, Mr. Holderman? I don't think we can have
5 any more disruptions. I don't know.

6 MR. HOLDERMAN: Well, I'm just rolling with it,
7 it's fine then. Actually, I would like to also again,
8 say that DWR appreciates the opportunity to review and
9 comment on the Board's draft revised SED. We recognize
10 the hard work and the long hours that you and the Board
11 staff have put in to developing this SED. And the
12 tremendous effort yet to come as you review and consider
13 the comments from so many stakeholders.

14 We found portions of the SED to be well-
15 documented. However, for the reasons I'll mention today
16 and we'll provide in our detailed comments, we suggest
17 various revisions to the SED to make it more factually
18 accurate and consistent with California Water Law.
19 Our comments will focus on the remaining topics that I
20 have on this outline slide.

21 An overarching comment on the SED is that the
22 document, including its implementation plan, contains
23 language assigning responsibility for portions of the
24 Water Quality Control Plan to specific parties, including
25 DWR. Such assignments should be reserved for Phase 3 in

1 the Plan update, because the Plan update provides a
2 foundation for considering the implementation elements in
3 a subsequent proceeding.

4 DWR believes it is inappropriate to include
5 language within the Water Quality Control Plan and SED
6 that dictates a result during the subsequent Water Rights
7 hearing. This would be contrary to the procedural
8 protections afforded to DWR and other affected water
9 rights holders. It is the position of DWR that all
10 language assigning responsibility to a particular party
11 or parties within the SED and the proposed Water Quality
12 Control Plan should be removed.

13 Furthermore, any measures to protect beneficial
14 uses that are related only to flows and water allocations
15 should be postponed to the Water Rights phase the Board's
16 proceeding.

17 Regarding the San Joaquin River flow
18 objectives, DWR believes that the SED relies, in part,
19 upon incomplete and out-of-date scientific information.
20 The SED also lacks information on the impacts of
21 predation on salmonids. It does not consider the Delta's
22 historic flooding and saltwater intrusion.

23 One consequence of this reliance is the
24 mistaken conclusion that there exists consensus about the
25 benefits to fish species of a barrier at the head of Old

1 River. The SED fails to acknowledge that there are
2 various regulatory agencies prescribing the actions
3 related to the barrier, which may lead to incompatible
4 operational requirements.

5 DWR believes that unimpaired flow objectives
6 are ill-suited for real-time operations. While
7 theoretically feasible, there are several hurdles that
8 must be overcome before water project operators can use
9 computed unimpaired flow for real-time operations. The
10 primary hurdle is that some of the necessary data are not
11 available in a timely manner.

12 We also question a primarily flow-only approach
13 to protecting fish. DWR recommends a more flexible
14 approach that takes into consideration other actions to
15 protect fish species, such as EcoRestore and the Delta
16 Smelt Resiliency Strategy. It is only through a careful
17 analysis of flow and its intended benefits that SED will
18 adequately analyze how to protect beneficial uses.

19 MR. MOORE: Yeah, on this point I can't let
20 that go without having staff perhaps provide a little bit
21 of a clarification.

22 Clearly, unimpaired flow is carefully
23 calculated metric the Department uses. And yet, as we've
24 discussed extensively for days, this can be a surrogate
25 for real-time flow in terms of real-time operation. So,

1 my question is can't we achieve, with basic flow-
2 monitoring technology, some information that's more real-
3 time on a 3-day basis that is not strictly academically
4 unimpaired flow as calculated by the Department, but
5 something that's akin to it that could be operationally
6 useful?

7 MR. GROBER: The detailed answer to this
8 question is something that we're going to have to answer
9 when we get into the implementation, but you're
10 identifying the tension that we saw this morning. The
11 why a 3-day or even an instantaneous is better.
12 Somewhere between the instantaneous and a 7-day becomes -
13 - we just start pushing against what is feasible in terms
14 of measurement.

15 The Department already posts information in
16 terms of real-time flow. If you look at that daily
17 information it's kind of glitchy, because it relies upon
18 estimating storage in reservoirs, determining numbers by
19 difference. All of those things, once you get to a daily
20 time step become very hard to measure. But it starts
21 evening out over some time period. Seven days seems to
22 be a potential sweet spot there. The last time we went
23 out, we went out with a 14-day. A 14-day, you really
24 start losing some of those optimal conditions.

25 The bottom line is to the extent that you

1 cannot precisely measure it in real time this is
2 something that you can always catch up, because the
3 requirement would be based on ultimately what does come
4 down. So it's really not much of an issue in terms of
5 determining the days, because you might not know it
6 exactly day to day. But you certainly will know it in
7 sufficient time in arrears to operate to it.

8 MS. D'ADAMO: But in follow-up isn't unimpaired
9 -- I mean, this is -- I actually think a block of water
10 and adaptive management through a settlement process,
11 ideally, where you've got a whole team of people working
12 on the needs of the river in combination with non-flow --
13 I think that's probably the best way to go. But in the
14 meantime, we're using unimpaired to calculate a block of
15 water, because we're talking about using flow shifting
16 anyway. So, it's not being used.

17 I mean, whether it's 3-day or 7-days in that
18 chart that Board Member Moore, you called out that NOAA
19 had, about how it was -- it can be a little bit unartful
20 at times if you use a certain running average. In the
21 end, isn't it going to get down to, or shouldn't it get
22 down to functional flow? And so this block of water
23 wouldn't be used as unimpaired flow. It would be used as
24 a block of water that a team would determine what's the
25 best, highest use for that water.

1 MR. GROBER: Well, that's precisely one of the
2 reasons to try to operate down to that 7-day and if
3 possible even shorter, because that becomes -- that's one
4 of the functions as was shown is important in terms of
5 cueing various biological functions.

6 That being said, there is difficulty with it.
7 This can always be trued up in measuring that block of
8 water. We shouldn't lose sight of the fact that the
9 current objective is based on unimpaired flow, the
10 determination of water year type. And then backing up
11 from that, on having a flow requirement. All of it a
12 month in arrears. So that's far less than optimal than
13 the proposal, which is trying to both tighten up the
14 operation to achieve some of those -- some of the
15 peakedness and some of the cueing and the timing -- to
16 agree more with the what's happening in real time, but
17 mindful of the difficulty of doing so.

18 So, it's trying to achieve really, the best of
19 both worlds.

20 MS. D'ADAMO: Right. But I mean, the --

21 MR. MOORE: Yeah. Because I have to say, Board
22 Member D'Adamo, my ideal is real-time operation. I mean,
23 I respect the block of water approach. I think we can
24 accomplish a lot. So I'm not absolute, but I think where
25 possible agreements and real-time ability to deploy has

1 to be built within it. Otherwise, it becomes
2 biologically meaningless. So I think what Mr. Grober is
3 saying is there's a balancing here between the
4 approaches.

5 MS. D'ADAMO: Yeah. I mean, I was going to get
6 into this at the end, but now might be a good time as
7 well. If you look at Table 3 -- and there's a lot of
8 talk about flow shifting, carryover storage -- but the
9 objectives are in Table 3. And Table 3 has unimpaired
10 flow and it's the 30, 40, 50 percent range.

11 And probably what we should do -- now's not the
12 time to debate this and get a legal analysis -- but I
13 think we should as we follow up with staff, get a better
14 understanding. It gets back to the issue that was raised
15 on day one and that "what is the project?"

16 So the project that's being analyzed, and I
17 know you had a chart or a slide on it, that it's
18 contained in Appendix K. Appendix K, my understanding is
19 the Program of Implementation, it's how it would be
20 implemented. But the objectives have an unimpaired flow
21 and it doesn't have anything in there on flow shifting.
22 It doesn't have anything in there about this flexibility
23 of the block of water.

24 So, I agree. I'd call it tension. I'd call it
25 a legal tension as well.

1 MR. MOORE: Anyway, yeah. So you're not going
2 to make comments on the flow standard without getting a
3 big discussion up here.

4 MS. D'ADAMO: Yeah.

5 MR. MOORE: But I'm sure we'll have more
6 discussions with you, with the Department about this
7 concept, because I don't think I got the whole story in
8 your overview there.

9 MR. HOLDERMAN: Well, I agree. I think a
10 workshop with our staff and your staff to go over,
11 particularly our operators, on how they operate the
12 releases from the reservoirs and the travel time and all
13 that in trying to figure out if they can do that in a
14 real-time situation, which right now I don't they can.

15 So, moving onto this slide on water quality the
16 SED contains inappropriate and erroneous information on
17 water quality within the south Delta. Including water
18 levels within the SED is inappropriate, as water levels
19 do not affect water quality. Assimilative capacity of
20 local channels is related to net flow, not water levels
21 or tidal flux.

22 And it has been shown frequently in passport
23 proceedings that the temporary barriers in the State
24 Water Project pumping do not change net flow in the south
25 Delta. Temporary barriers are installed as mitigation

1 for the SWP impacts. And water levels are designed to
2 maintain or improve circulation in the area when compared
3 to what would be present, absent the barriers in State
4 Water Project pumping.

5 The barriers are not specifically designed to
6 improve water quality, but by sometimes modifying the
7 culvert openings to improve circulation, which by the way
8 is always at the expense of water levels, the barrier can
9 sometimes, but not reliably, improve water quality in
10 poor circulation areas that are upstream of the barriers.

11 While the Board has in the past has recommended
12 DWR continue to install the barriers, DWR does not agree
13 the barriers should be required by the Board in a Water
14 Quality Control Plan or a Water Rights Order, because the
15 barriers are not a significant or reliable tool for
16 meeting south Delta water quality objectives that DWR,
17 frankly, should not be responsible for.

18 DWR does not degrade water quality in the south
19 Delta. The salt loadings in the south Delta occurs from
20 salts centering in the south Delta at Vernalis and
21 agricultural and M&I discharges in the south Delta
22 downstream of Vernalis. DWR does not discharge salts in
23 the south Delta and has no reservoir on the San Joaquin
24 River from which we can release dilution water.

25 The exports from the south Delta at Banks Pumping

1 Plant removes some salts from the system, but the pumps
2 are used in a dynamic sense to provide water supplies to
3 south of Delta customers and to minimize adverse impacts
4 to protected fish. Therefore, it is not practical to use
5 the pumps for south Delta salinity control, as this may
6 have unintended adverse impacts to export water supplies
7 and fish.

8 Regardless, the removal of salts from the south
9 Delta area due to export operations will have little
10 effect on south Delta water quality objectives.

11 As to the factors that do impact water quality,
12 DWR has conducted many years of data collection analyses
13 regarding impacts to the State Water Project on south
14 Delta water quality and hydrodynamics. Tremendous staff
15 time and effort continue to be dedicated to gathering and
16 validating that information.

17 Because of these efforts, DWR and the Board
18 possess sufficient information to appropriately assign
19 responsibility for south Delta water quality objectives.
20 Therefore, the SED should be modified to reflect the
21 actual impacts in the State Water Project on south Delta
22 water quality. Namely, that DWR's operation of the State
23 Water Project export facilities and the temporary
24 barriers improves water levels for local water users,
25 maintains net flows, maintains or improves circulation,

1 and can occasionally improve water quality in the south
2 Delta from what is otherwise naturally available.

3 The SED recognizes that there is a considerable
4 amount of salt loading in the south Delta downstream of
5 Vernalis, which occurs primarily through local drainage
6 return flows. The additional salt load is not
7 attributable to either the CVP or the State Water
8 Project. And it is not reasonable to expect the water
9 projects to control it. The SED documents this when it
10 proposed 0.7 EC at Vernalis and 1.0 EC in the interior
11 south Delta compliance stations during the spring and
12 summer irrigation season. DWR agrees with that proposal.

13 However, if the Board is to set reasonable
14 objectives for salinity in the south Delta it should also
15 allow for the degradation of water quality in the fall
16 and winter months by setting salinity objectives
17 downstream of Vernalis at a higher level than the
18 objectives set at Vernalis. This change would account
19 for the high salt loading from normal agricultural soil
20 leaching that typically occurs in these months.

21 Although the SED evaluated and discounted a 1.4
22 EC year-round objective at the interior locations, DWR
23 recommends a 1.3 to 1.4 EC objective during the fall and
24 winter months when the Vernalis objective is 1.0 EC.

25 DWR recently contracted with consultant ICF to

1 conduct a study and report evaluating salinity patterns
2 and effects of tidal flows and temporary barriers in the
3 south Delta. The study identifies the source of high
4 salinity water in Paradise Cut and Sugar Cut and explains
5 how this higher EC water is tidally mixed with the Old
6 River flow and increases the measured EC at the Old River
7 near Tracy Road Bridge Station, or the ORT Station, as we
8 call it, the "Old River Tracy."

9 The report provides an increased understanding
10 of the south Delta channel flows and salinity patterns.
11 It explains the effects of CVP and SWP pumping on south
12 Delta salinity. And it demonstrates that export pumping
13 and barrier operations do not increase the measured EC at
14 the ORT Station or the frequency of D-1641 exceedances.
15 This report, which we are -- just completed, will be
16 available to the Board and will be available online to
17 the public early this month, probably in a week or two.

18 In addition to this recent study and report, it
19 has been repeatedly shown by past field studies and
20 reports that salinity at the ORT Station is heavily
21 influenced by saline return flows that originate in
22 Paradise Cut and Sugar Cut. Consequently, it is not
23 reasonable to set salinity objectives at this location.
24 It may be more reasonable to continue the Middle River
25 and Brandt Bridge locations as compliance stations. The

1 DWR recommends that the Board discontinue using the ORT
2 station as a compliance location.

3 The objectives for the proposal alternatives
4 include meeting water quality objectives throughout
5 channel reaches, rather than through previously specified
6 compliance locations that are in D-1641. Such an
7 approach to monitoring water quality would place
8 additional responsibility on DWR to control for in-Delta
9 diversions and discharges, factors that DWR cannot
10 influence.

11 Flows downstream to the compliance locations at
12 Old River at Tracey Road Bridge and Old River at Middle
13 River are naturally low during the irrigation season.
14 Modeling indicates that almost all the incoming flow is
15 diverted by in-Delta uses. And the reduced amount of
16 flow returned to the channels is of worse quality.
17 Therefore, controlling and monitoring for water quality
18 within channel reaches could be very difficult and
19 costly. Nonetheless, DWR believes it should not have the
20 responsibility to ensure water quality within the south
21 Delta.

22 DWR also has concerns with respect to the SED
23 and evaluation of impacts to groundwater and
24 implementation of Sustainable Groundwater Management Act,
25 or SGMA. The SED acknowledges that groundwater in basins

1 subject to SGMA will be impacted by the increased flow
2 alternatives, some of them significantly.

3 The SED also assumes that groundwater
4 sustainability plans can bring the basins to sustainable
5 conditions without considering the impact of additional
6 groundwater pumping caused by meeting the proposed
7 alternative flow requirements. Deflecting the burden to
8 address unquantified impacts from additional groundwater
9 pumping to the groundwater sustainability agencies would
10 result in a failure to reach sustainable groundwater
11 management in the basins.

12 The SED states the annual average groundwater
13 balance can be expected to be reduced in terms of the
14 equivalent about one-inch across the subbasins. It isn't
15 clear what this means, as the adverse impacts cannot be
16 evaluated or compared when pumping is expressed
17 qualitatively and location-specific information is not
18 provided.

19 DWR believes that the extent of impacts of groundwater
20 pumping should not be averaged across the entire basin.
21 DWR recommends the amount of additional groundwater
22 extracted to replace the loss of surface water deliveries
23 should be expressed as a volumetric unit, such as acre-
24 feet, and be location specific.

25 Also, the groundwater data are not current and

1 are not reflective of groundwater conditions affected by
2 the current five-year drought. Groundwater extraction
3 and subsidence has increased significantly during the
4 drought and groundwater elevations have not recovered.
5 DWR recommends the starting point for the evaluation of
6 the alternative should reflect current groundwater
7 conditions, should be more location-specific, express
8 impacts in quantifiable units, and take in consideration
9 future climate change impacts.

10 MS. D'ADAMO: I have a question on that last
11 slide. So we had a speaker -- I wish I could remember
12 who it was, maybe about five back -- that said that our
13 staff's analysis is inadequate on groundwater and that it
14 should analyze the SED with SGMA. And that the
15 Department has some information that our staff could use
16 in developing that analysis. Is that accurate? Do you
17 have information that could help our staff in the
18 development of an analysis with SGMA?

19 MR. HOLDERMAN: Well, I'm not the expert in
20 groundwater. We do have an expert here that may be able
21 to answer that question if you'll allow her to come
22 forward.

23 MS. D'ADAMO: Yes, I think it'd be helpful.
24 And I'm not remembering -- does anyone remember? The
25 speaker mentioned a couple of reports that are readily

1 available at the Department.

2 MR. GROBER: I think it might have Terry
3 Erlewine with the State Water Contractors.

4 MS. D'ADAMO: Oh, that's right. It was Terry,
5 yeah.

6 VICE CHAIR SPIVY-WEBER: Be sure and identify
7 yourself and clearly your affiliation with the
8 Department.

9 MS. SCRUGGS: I'm Mary Scruggs. I'm with the
10 Department of Water Resources and I work in the
11 Groundwater section.

12 I'm not sure what report is specific, but SGMA
13 is just starting right now. And GSAs, groundwater
14 sustainability agencies, and the groundwater
15 sustainability plans, are being developed. The GSAs are
16 required to put together by April of this year. Plans
17 are not due until 2020 or 2022.

18 And so, there is a lot of existing data. The
19 data that was used in the SED went up to 20 -- I mean,
20 sorry, 2010. It doesn't include information on
21 groundwater from the drought. And so the conditions have
22 worsened, as Mark had said in our comments, and so that
23 starting point should be from where it is. So SGMA is
24 requiring local agencies, the GSAs, to bring the
25 groundwater basins to be sustainable by 2020 or 2022.

1 Several of these basins are critically
2 overdrafted. The additional requirements of groundwater
3 pumping on unimpaired flows would increase that burden
4 onto the groundwater, but it's unclear -- it's not
5 quantitatively described in the SED -- to how much. So,
6 they're already working at a deficit. What further
7 deficit are they going to have to be working at to be
8 able to be sustainable?

9 So, hopefully -- and there is data available on
10 groundwater levels, but there's also a lot of holes in
11 groundwater. Groundwater is one of the ones we just
12 don't have all that data. And you can't go back and get
13 historical data if it wasn't already collected. So it's
14 moving in the right direction, but there's a lot more
15 work to be done.

16 MS. D'ADAMO: Well then how would you, if you
17 think it should be a more specific detailed and
18 quantitative analysis, how would you recommend going
19 about that?

20 MS. SCRUGGS: If you're going to -- what volume
21 would be taken out and what basins would that be? So
22 what would that be extracted and where are they now? And
23 so what's that additional part that would be taken of
24 where they are. That's what would be needed. Does that
25 help?

1 MS. D'ADAMO: Yes. And do you have any
2 information that could assist in coming up with a range
3 of what a potential groundwater management plan would
4 look like in terms of the range that would be needed for
5 the basin to rebound?

6 MS. SCRUGGS: There's several sources. There's
7 existing data that we have, there's local agencies that
8 have groundwater management agencies or irrigation
9 districts. The Department released the regulations on
10 what's needed in the groundwater sustainability plans, so
11 it would be a matter of looking at the particular
12 subbasin. What volume would that be considered to be --
13 would be replaced, the surface water that would be
14 replaced by groundwater -- and looking at it in a
15 specific subbasin.

16 And that's what will be looked at in preparing
17 and developing the groundwater sustainability plans. And
18 in these areas that are critically overdrafted, they are
19 going to have to figure out what do they reduce or how do
20 they bring in more supplies to recharge that groundwater.
21 So, additional burden of pumping on the groundwater is
22 just it's digging a deeper hole, so how do you dig them
23 out?

24 And the way the SED was written, is it
25 acknowledges that it will have a significant impact, but

1 it also plays off saying that SGMA will take care of
2 groundwater. Well, SGMA can't take care of groundwater,
3 unless everything is taken into consideration. So in
4 areas where you've got critically overdrafted basins and
5 you're putting more burden onto it you're going to worsen
6 the situation. So, is it tipping the scale to make it no
7 longer sustainable? Or what will happen?

8 I mean, it's going to take years to be able to
9 get these basins to recover.

10 MS. D'ADAMO: Okay. Thank you.

11 MR. MOORE: I actually think based on the
12 staff's briefings over the last couple of years we have
13 taken recent groundwater data into account. We've looked
14 at 2014 pumping rates -- I mean, correct me if I'm wrong,
15 but I don't know if I agree with this bullet that I'm
16 looking at right now as far as we haven't taken any of
17 that, the drought, into account.

18 MR. GROBER: I think we can all agree that
19 groundwater is a big issue that will have to be resolved,
20 but we used the best data that we had in front of us.
21 So, I think what I've heard is that there haven't been
22 other reports that have come up with the storage levels,
23 the groundwater pumping rates. But we have. And I'm
24 just looking in the Executive Summary, where we've
25 exactly tried to do that. And we have a groundwater

1 chapter where we've done a mass balance, where we have
2 quantified the increase in groundwater pumping that we
3 think would occur based on 2009 rates of groundwater
4 pumping, recognizing that that's lower than the full
5 capacity, based on 2014. And I think as I'd said
6 earlier, mindful of using a number that is less
7 unsustainable.

8 What the sweet spot is, what is sustainable is
9 an impossible question to answer. I expect there will be
10 a lot more information in the next few years, but we did
11 do that analysis to look at any number of ways what the
12 current levels of groundwater overdraft are and how this
13 would increase those rates of groundwater overdraft.

14 MR. MOORE: That's right. And also, this is a
15 water-supply-focused discussion. And I haven't heard
16 anything about water demand management in that discussion
17 yet, as far as SGMA goes. Thank you.

18 MR. GROBER: And that's correct. Thank you for
19 that, because I think it's worth pointing out that the
20 principle effect of the proposal would be to reduce the
21 quantity of surface water available. That will have an
22 effect. And then the next effect that we see would stem
23 from that would be some level of increased groundwater
24 pumping. But the project itself is certainly not
25 requiring or advocating increased groundwater pumping,

1 it's just observing what has happened when there has been
2 water shortage.

3 MS. D'ADAMO: If we could get back to -- one of
4 the things that I found confusing in going through the
5 staff analysis is this metric for determining an impact,
6 so many inches. And I think what I'm hearing you say is
7 that we shouldn't be looking at it from a broad level, we
8 should be looking at the local subbasin. And that
9 information, at least the current state, is compiled --
10 the current information that you have is compiled by
11 subbasins.

12 MS. SCRUGGS: Correct. If you average it
13 across the entire subbasin, you know where are the wells
14 actually going and where's the pumping? So, if all the
15 pumping is in one area, averaging it across you've now
16 averaged it, so you're not really seeing what's
17 happening. Groundwater is very location-specific. So
18 depending upon is you're aquifer more productive in an
19 area. Do you have area subsidence? Are you increasing
20 that? It's location, location, location.

21 The data that was used in the reports that were
22 referenced was DWR reports and it was a groundwater
23 report, but it was based on data up through 2012 --
24 sorry, 2010 and 2009. We haven't compiled further than
25 that, because that was last we've done.

1 There is data out there and it's available, but
2 it's a matter of compiling it and getting it and
3 evaluating it. And that's what will be happening under
4 SGMA on the basins and on developing these sustainable
5 groundwater management plans, they'll have to be looking
6 at their specific basins and getting that data and
7 bringing it up to date. But there's been a significant
8 impact to groundwater with the drought over the last four
9 or five years.

10 MS. D'ADAMO: Yeah. And I'm just thinking that
11 with all of the testimony that we've had from
12 disadvantaged communities and concerns about drinking
13 water wells, schools, and in certain communities like
14 Planada, and I think Denair, it does seem that those
15 impacts already are quite localized. And I don't know
16 enough about what's causing those localized impacts.

17 Is it the -- are we talking about shallow
18 wells? But there are shallow wells throughout the
19 region. But these are communities that seem to get hit.
20 And so it does seem that spreading it out through across
21 the entire subbasin isn't going to give us the
22 information that we need in order to determine those
23 disadvantaged community impacts that have been
24 highlighted.

25 MR. GROBER: But I think as you are hearing

1 here, we don't have that, the detailed information,
2 certainly not in reports. So we've done actually quite a
3 bit for a problematic analysis to know what the overall
4 effect. And we say some words that we can't know exactly
5 where these are all happening, but we do identify that
6 there have been locally areas that have already
7 groundwater problems. And that they are not going to get
8 better with having reduced surface water availability.

9 MR. MOORE: I think this gets to the issue, and
10 it's a bit of a legal issue, but in terms of are we doing
11 an adequate job of describing the potential impacts? And
12 how much granularity is necessary? And what kind of
13 threshold of significance that we need to do for this
14 exercise? I mean, we're definitely encouraging comments
15 on this. If we're too coarse in our analysis, and as you
16 point out there may be specific areas that are vulnerable
17 in the SED project area, we're listening. But in this
18 discussion I didn't hear a lot of detail from DWR saying,
19 "Oh, you ought to look at this report, because --" or
20 "This new CASGEM data really gives insight into this
21 area. That should be highlighted in the SED."

22 So I just want to manage everyone's
23 expectations here. This is a disclosure of potential
24 impacts. It's really dependent -- the level of
25 granularity of this analysis is dependent on available

1 data. We can talk about, academically, what we've missed
2 and all the important points about hydrogeology and its
3 heterogeneity. But there's available data. And then
4 there's an acceptability, to some degree, to accept a
5 qualitative analysis of disclosed impacts. I don't know
6 if you have any comments on that.

7 MS. WON: Well, yeah. I would echo your
8 statement that we can only do what's reasonably
9 foreseeable. And that's the standard by which we are
10 going to be held in a court of law.

11 MS. D'ADAMO: So I'm going to just jump in
12 here. I think that that's a good way to describe the
13 issue is what is legally required of us? But on SGMA in
14 particular, this is a top priority for the administration
15 and so is drinking water. And so I think --

16 MR. MOORE: For this Board.

17 MS. D'ADAMO: Yes. So, I think you may be
18 correct from a legal perspective. I think from a policy
19 perspective we need to do more, to the extent that we
20 can. And so, if you do have some reports that you could
21 help identify to turn, to point staff in the direction it
22 would be greatly appreciated. Because I think that we
23 have an obligation from a policy perspective to do more
24 on the SGMA issue.

25 And I know there was a slide that staff had on

1 today's presentation on the disadvantaged community
2 issue, in saying that -- there was the last bullet there,
3 I'm looking for the slide, I'm not pulling it up here --
4 but that the disadvantaged community analysis would be
5 done as part of groundwater sustainable plans. That's
6 not something we should be kicking down the road. I
7 mean, that's something that we should be looking at to
8 the extent that we can incorporate it into the analysis.

9 VICE CHAIR SPIVY-WEBER: Go ahead.

10 MR. HOLDERMAN: Okay, I'll be wrapping up
11 quickly. I'll just talk about climate change and then
12 move to my summary slide.

13 The last update of the Water Quality Control
14 Plan was over a decade ago and flow objectives for the
15 San Joaquin River have not been updated for over two
16 decades. During that time our understanding about
17 climate change impacts has substantially improved.
18 However, the knowledge has yet to inform the Water
19 Quality Control Plan and in fact, will not significantly
20 do so, even in this update as the hydrologic analysis for
21 the Water Quality Control Plan does not consider future
22 climate change impacts.

23 Further, continual updating of the Water
24 Quality Control Plan will continue to include the
25 hydrology of the past, which is becoming increasingly

1 irrelevant for water resources planning. For instance,
2 the continued inclusion of hydrology from the first half
3 of the 20th Century will dampen the impact of the
4 increased variability experienced in the last half of the
5 20th Century and the markedly increased warming
6 experience since the turn of the century.

7 Since Water Quality Control Plan update
8 processes can last 10 to 20 years, or more, the SED
9 evaluation of impacts should consider future climate
10 change impacts as part of the analysis.

11 This last slide is a summary of the major
12 topics I wanted to talk about today. The key issues I'd
13 like to leave the Board with are: Consider other actions
14 besides flow that can potentially be more effective at
15 protecting fish.

16 Assign responsibility for water quality
17 degradation to those responsible for the degradation.

18 Recognize from years of modeling and study
19 data, including a recent report that you'll soon see,
20 that south Delta's salinity problems are not caused by
21 the State Water Project.

22 Revise salinity objectives that account for
23 degradation downstream of Vernalis in the fall and the
24 winter months.

25 Recognize that the Old River Tracy Station is

1 not a reasonable compliance station for measuring overall
2 south Delta water quality. And compliance by reach is
3 going to be very problematic.

4 And also apply DWR's recommendation that the
5 Board's SED include groundwater and climate change
6 impacts.

7 That completes DWR's presentation today. We
8 appreciate the opportunity to provide our oral comments.
9 We'll soon be completing our more extensive and detailed
10 written comments. And we look forward to working further
11 with the Board and Board staff as this process moves
12 forward. Thank you.

13 VICE CHAIR SPIVY-WEBER: Thank you. Any
14 questions? Okay.

15 I have ten cards that I will read off. And if
16 you could line up, so that you can move in very quickly.
17 And if you can keep it to two minutes it would be great.
18 We will set the clock for two minutes. If you have to go
19 over a little bit to make your point we'll take that into
20 account, but we'll set the clock for two minutes.

21 Erika Lovejoy, Victoria Guinard, Jonathan
22 Moules, David Aladjem, Charlene Woodcock, Joe Daly, Larry
23 Kolb, Erik Young, Peter Mangarella, Alicia Thompson.

24 Go ahead, Erika.

25 MS. LOVEJOY: Hi. I scheduled mine for three

1 minutes, but I'll do my best. I --

2 VICE CHAIR SPIVY-WEBER: Please do.

3 MS. LOVEJOY: Okay. I'm Erika Lovejoy with
4 Sustainable Conservation, a nonprofit that's working on
5 water issues statewide. We recognize the urgent need to
6 address the species declines and ecosystem changes that
7 occurred in the San Joaquin River and Delta system and we
8 appreciate your effort to do a balanced approach.

9 In order to address the problems impacting the
10 environment in local communities we believe that a fully
11 integrated approach is needed. And that should take into
12 account not only an adaptive strategy for managing flows
13 in wet versus dry years and implementation of non-flow
14 restoration actions, but also water conservation,
15 agricultural water use efficiency, and groundwater
16 recharge at a meaningful scale.

17 Then further evaluation also needs to be made
18 too, and options spelled out for disadvantaged
19 communities, as you all have been talking about. We
20 think that's really important, especially with the
21 anticipated increase in groundwater pumping that's likely
22 to occur.

23 Now, we're going to submit more detailed
24 comments on those items, but today I'd like to recommend
25 specific actions for the Water Board to encourage

1 development of settlement agreements that include a wide
2 spectrum of non-flow action. So, we strongly believe
3 that increased flows in the San Joaquin system must be
4 accompanied by badly needed habitat improvements in order
5 to adequately address fish and wildlife beneficial uses.

6 So first, we recommend creation of a roadmap to
7 help potential project proponents to understand how to
8 acquire partners and to plan, develop, and implement
9 restoration projects, okay? So restoration isn't
10 necessarily a key area of expertise for many water
11 agencies. And guidance on how to get the work done is
12 really needed.

13 Next, there's also a need to help identify
14 potential funding sources and collaborators for projects.
15 And the Water Board could dedicate regional staff to help
16 identify viable projects and help to store them along
17 through the permitting and implementation process.

18 Finally, we believe that programmatic, or
19 simplified permits, should be developed now to cover a
20 variety of estuary restoration actions. If you're going
21 to get these projects done, you can't wait till later, so
22 that would definitely save time and money and get more
23 projects done and create a lot of incentives. Because
24 otherwise, if some of these actions aren't taken into
25 advance I'm afraid that folks aren't going to pursue

1 these voluntary settlement agreements.

2 VICE CHAIR SPIVY-WEBER: Thank you.

3 MS. LOVEJOY: Thank you.

4 VICE CHAIR SPIVY-WEBER: Victoria.

5 MR. MOORE: Yeah. And that area of
6 programmatic permitting, we talk about it a lot. And
7 different regional boards have advanced this prospect a
8 lot. And so, we certainly are aware of that and want to
9 encourage that and appreciate that. It is a multi-agency
10 commitment and so it requires our Water Boards to work
11 the other permitting agencies, but certainly, are very
12 interested in that.

13 And good to see you Ms. Lovejoy. I haven't
14 seen you since Santa Clara Basin --

15 MS. LOVEJOY: Yes.

16 MS. GUINARD: Hello, my name is --

17 MR. MOORE: -- back in the '90s. Sorry.

18 MS. GUINARD: Hello, my name is Victoria
19 Guinard. I'm with the Turlock FFA. And I'm here more
20 importantly on behalf of Turlock, along with other
21 communities as a whole. So ultimately, I'm not here
22 today to give a spiel about my family, farm or anything
23 of that nature, because I actually grew up with no
24 agricultural background whatsoever. I joined FFA simply
25 to become more involved in any way possible; hence the

1 reason why I am here today.

2 However, I do feel that regardless of whether
3 or not I have an agricultural background, agriculture is
4 constantly reflecting not only my life, but impacting my
5 community as a whole, for the simple fact of being that
6 one our greatest socioeconomic opportunities and
7 opportunities for successes. And where we've actually
8 seen the majority of our successes is directly from the
9 agricultural realm, where we've seen job opportunities.
10 Where we've seen students within the FFA program, which
11 is the largest youth organization across the nation, is
12 constantly revolutionizing individuals' mindsets in order
13 to ensure that they have opportunities for success within
14 the future.

15 So ultimately, today I'm not necessarily
16 advocating for a world where we're not going to see any
17 benefits towards the fish industry. But I'm ultimately
18 suggesting a way in which we're capable of increasing the
19 opportunity for negotiations, where we're going to see
20 the agricultural industry still in the spotlight.
21 Especially taking into consideration the benefits not
22 only on the economic standpoint, but to our day-to-day
23 lives.

24 We have to realize that it's not just our lives
25 in the future that are going to be impacted, but its

1 youth organizations where we have 635,000 members within
2 the FFA program; 85,000 of which are residing within
3 California as of right now. That's 85,000 peoples'
4 futures solely anticipated and solely relying on an
5 agricultural industry that were currently jeopardized
6 within the California realm. Thank you.

7 VICE CHAIR SPIVY-WEBER: Thank you.

8 Jonathan?

9 MR. MOULES: Hello, my name is Jonathon Moules.
10 I'm a senior at Turlock High School and a four-year
11 member of the Turlock FFA Chapter. As you can see, I am
12 wearing the -- (Timer beeps.)

13 (Laughter.)

14 VICE CHAIR SPIVY-WEBER: Time's up.

15 MR. MOULES: Okay. As you can see I'm wearing
16 the blue and gold jacket that you've seen multiple times
17 over the course of these meetings across the Central
18 Valley. And as you can already probably figure out, I'm
19 the son of a farmer. And of course, this proposal will
20 affect our family's livelihood as farmers. But over the
21 past few months there have been many different and
22 redundant testimonies on how the unimpaired flow proposal
23 will be affecting family farms and other professional
24 businesses and organizations.

25 But one matter has not been discussed -- on how

1 it'll affect everyday K-12 students. According to the
2 California Department of Education 2015-2016 school year
3 database of how many children are on the free or reduced
4 lunch program, nearly 67 percent of those students in
5 Stanislaus County, 61-and-a-half percent in San Joaquin,
6 and 80.6 percent in Merced County students are on this
7 program.

8 The Free Lunch Program is granted upon families
9 where their yearly income is at or below 130 percent of
10 the poverty line. And reduced price is granted upon
11 those who are between 130 and 185 percent. And keep in
12 mind that the poverty line for the year of 2016 was about
13 \$25,000 for an average family of four.

14 The Lunch Program requires all students who
15 come into the cafeteria to eat lunch to take the main
16 meal, which can vary from being a sandwich to nachos, to
17 take a fruit or vegetable, and a milk. And which every
18 part of that meal is, obviously, an agricultural
19 commodity. Not to mention how the water quality in
20 schools will fall if more groundwater has to be used.
21 But anyways, the full price of the meal varies from \$2.00
22 to \$3.00.

23 The question that you need to answer is will
24 the estimated jobs being lost affect a number of families
25 needing to use the School Lunch Program? And will the

1 full price of those meals have to be raised and therefore
2 decrease the number of students eligible for those free
3 and reduced lunch programs in the counties stated
4 previously and other surrounding areas?

5 Thank you very much for your time.

6 VICE CHAIR SPIVY-WEBER: Thank you.

7 David.

8 MR. ALADJEM: Good afternoon Vice Chair Spivey-
9 Weber and members of the Board. David Aladjem, Downey
10 Brand, here this afternoon on behalf of the Northern
11 California Water Association. Northern California Water
12 Association, NCWA, and all of its member organizations
13 very much appreciate the opportunity to speak this
14 afternoon and also, the extension of time for comments.
15 We will be providing extensive comments at the March
16 deadline.

17 The Board is well aware of Northern California
18 Water Association's interest in the Sacramento Valley.
19 You maybe wondered why are we here this afternoon on the
20 San Joaquin. The short answer is that the approach taken
21 by your staff on the SED, the unimpaired flow approach,
22 we believe is fundamentally wrong-headed. We believe
23 that it involves an outdated, regulatory mindset that
24 essentially takes a meat axe to this problem where we
25 need a scalpel.

1 What we've been proposing for the last few
2 years, as many of you know, is what we call a functional
3 flow approach. What it does is it starts with Water Code
4 Section 13000, the basis for Porter-Cologne. And it says
5 let's treat all of the beneficial uses as equally meeting
6 in your Water Quality Control Plan. It then says let's
7 look at all of those beneficial uses, all of the needs
8 for the environment, for agriculture, for urban uses and
9 let's figure out what those needs are. And then let's
10 figure out -- and we call this functional flows -- what
11 flows are necessary to meet which specific purposes. Not
12 an unimpaired flow approach that literally says we're
13 going to have a huge amount of water without tying it
14 very closely to the needs of fish or agriculture or urban
15 areas.

16 This morning Member Moore, you used the phrase,
17 bioengineering -- let me please finish --- and we think
18 that's exactly the right way for this Board to approach
19 it. We urge that you take that type of an approach and
20 rely upon the Delta Science Panel's recent report from
21 November that did not identify unimpaired flows or even
22 flows at all as one of the limiting factors in the Delta
23 estuary.

24 Thank you very much for your time.

25 VICE CHAIR SPIVY-WEBER: Thank you. And we

1 look forward to those comments.

2 Charlene?

3 MS. WOODCOCK: Hello, my name is Charlene
4 Woodcock. I was born and raised in Arcadia in Southern
5 California. And childhood trips to the desert taught me
6 that I lived in an arid country and the water is precious
7 and needed to be treated with great care.

8 VICE CHAIR SPIVY-WEBER: Can you bring your --
9 yes, there. Perfect.

10 MS. WOODCOCK: Later, camping on the Eel River
11 in the Redwoods taught me the close relationship between
12 the richness of those woods and the inner-dependence
13 between them and the water and the salmon.

14 At a time of water scarcity, what's needed is
15 conservation and efficiency. Not only of water, but of
16 energy. The health of the Delta is essential to our
17 economy as well as to California's water system and the
18 diversity of fish, plants and animals it supports, and
19 people.

20 We want our salmon fisheries to thrive, not to
21 be sacrificed to industrial agriculture profits.

22 Inadequate freshwater flows are damaging the Delta and
23 the salmon and steelhead populations and the larger
24 California economy.

25 There have been a couple of mentions of the

1 suffering of disadvantaged communities, for lack of
2 adequate water. At the same time we see very wealthy
3 communities, perhaps adjacent as in Palo Alto and East
4 Palo Alto, where there's a great deal of water waste,
5 extravagant use. So it seems to me some need exists to
6 do a little evening of water use. In Southern California
7 I've read in recent years that water districts have
8 recognized that they can't continue to expect the water
9 from Northern California, so they're investing in water
10 cleaning and recycling plants.

11 In view of the drought's effects and the
12 escalating consequences of climate change we can no
13 longer allow California water policy to defer to the
14 demands of industrial agriculture. Thank you.

15 VICE CHAIR SPIVY-WEBER: Thank you very much.

16 Joe?

17 MR. DALY: I'm Joe Daly, a founding Board
18 member of the Tuolumne River Trust and currently on their
19 Advisory Board. And for more than 35 years I was a river
20 outfitter on the Stanislaus, Merced and Tuolumne rivers.
21 I will give you the Reader's Digest of what I was going
22 to say. But the three points I was going to make would
23 be: 1) having to do with flows, 2) having to do with
24 technology and 3) having to do with attitude.

25 With regarding flows, the evidence this morning

1 was just simply overwhelming. This, I think what the
2 scientists said, just means we have to have a greater
3 flow: 50 percent is better than 40 percent, 60 percent is
4 better than 50 percent. And we cannot continue what we
5 have presently for our flow through that Lower San
6 Joaquin. It'd be almost like driving around on four flat
7 tires.

8 Secondly, in terms of technology, there are
9 companies out there that I think can do much to help.
10 And I think the experts within the Board should reach out
11 to a company like XiO in San Anselmo, California. They
12 have worked with municipal and mutual water communities
13 to help with devices that are cloud-controlled and
14 brought about some tremendous efficiencies. And so I
15 would encourage you to contact them and have a
16 conversation, but I'm sure there are many other companies
17 out there too. And by the way, I don't own any stock in
18 that company.

19 Third, and this could well be the most
20 important point for you all, and that is the attitude
21 that we all take now. Pretty much it's an "us versus
22 them" attitude. And we really do need to move away from
23 that. The young man that spoke earlier about teamwork, I
24 think there's some merit in that. I think we're getting
25 people of very diverse points of view into the same room.

1 It might be knocking heads a little bit, but I think it's
2 worth getting beyond that. Otherwise it's going to be a
3 bigger challenge for all of you.

4 Thank you very much. I do have a petition
5 signed by 1,200 people I'd like to submit to you all
6 concerning increased water flows on the lower flow.
7 Thank you.

8 VICE CHAIR SPIVY-WEBER: Thank you.

9 Larry? Larry.

10 MR. KOLB: Thank you Madam Chair and Board
11 Members. I think of the many things that this Board gets
12 involved in none is more thankless than this one, this
13 kind of thing, of reallocating water in the interests of
14 the environment. So I want to say, "Thank you." I think
15 that makes me a committee of one, but I just -- just so
16 once you could hear that. And I want to express my
17 admiration also for the quality of the staff work and for
18 the patience and good graces of this Board in attending
19 hearings in places where you're going to get nothing but
20 criticism. So, thank you for that.

21 Much of the testimony has been concerned with
22 economic impact of reducing some of the water. All the
23 crops grown in California amount in normal years to
24 around \$36 billion. That's the highest in the country by
25 a big measure. However, I'd like to note some other

1 California institutions that are not in agriculture.

2 For example, Apple has revenues of \$234 billion
3 last year, Google at \$75 billion, Intel at \$55 billion.
4 These and other innovative firms like Facebook and Sales
5 Force and Twitter and eBay, to say nothing of Hollywood
6 and Aerospace or our great universities, they help drive
7 the state's economy, which is currently at \$2,500
8 billion. So, if you take the \$36 billion as a
9 percentage, it's less than 2 percent of California's.
10 And if you include all of the indirect ones and you
11 generously define them it's well under 10 percent. So,
12 this is not a giant engine of growth in California.

13 I think we want to have successful,
14 sustainable, profitable farming. But there are other
15 priorities, as well. Thank you.

16 VICE CHAIR SPIVY-WEBER: Thank you.

17 Erik?

18 MR. YOUNG: Hello, my name is Erik Young and
19 I'm President of the North Bay Chapter of Trout
20 Unlimited, one of 13 local grassroots chapters that Trout
21 Unlimited has in California. Our chapter has slightly
22 over 900 members, who live in Marin, San Francisco and
23 San Mateo counties. These members belong to our
24 organization, because they believe in the importance of
25 trout and salmon in their habitat. We spend many

1 volunteer hours in direct support of that belief. As an
2 organization, Trout Unlimited prides itself on working on
3 a collaborative basis with agencies, landowners and
4 ranchers in achieving results, which benefit coldwater
5 fisheries.

6 Why do we care about maintaining river flows?
7 Enjoying the peace and freedom that comes with being out
8 in nature. Spending precious time with our friends and
9 family outdoors in a beautiful watershed. Looking
10 forward to, and planning for a trip and all the
11 preparation that entails, creating memories that last a
12 lifetime. Just standing alongside a swiftly-flowing
13 river on a cold morning. And the thrill and uncertainty
14 of having even a small chance to catch and release a
15 fish.

16 All of our members, whether they fish or not,
17 support and appreciate knowing that healthy fish
18 populations exist in the rivers, which are the focus of
19 today's meeting. And perhaps, most importantly, we want
20 to ensure that these experiences are available to future
21 generations.

22 In considering our requests for freshwater
23 flows that are adequate to support fish populations,
24 please also consider the economic contributions that
25 recreational fishing makes to the California economy.

1 We buy equipment, we stay in local hotels, and eat at
2 local restaurants when we travel. We provide revenue to
3 the California Department of Fish and Wildlife in the
4 form of licenses and fees. We pay a 10 percent federal
5 excise tax on fishing equipment that goes directly
6 towards supporting local conservation.

7 Thank you for providing this forum today and
8 for considering our views.

9 VICE CHAIR SPIVY-WEBER: Thank you.
10 Peter?

11 MR. MANGARELLA: My name is Peter Mangarella
12 and I'm going to keep this very simple. I'm the
13 President of the John Muir East Bay Chapter of Trout
14 Unlimited, which covers Alameda and Contra Costa
15 counties. The mission of TU is to protect and restore
16 coldwater fisheries. Our Chapter supports the State
17 Water Resources Control Board in the efforts to help
18 farmers, commercial and recreational fishermen, urban and
19 industrial water users, and environmental groups
20 cooperate on the issue of increasing river flows into the
21 Bay-Delta.

22 As a student in the '60s, 1960s, I fished the
23 Tuolumne River in the high country, as well as the lower
24 river prior to the completion of the New Don Pedro Dam.
25 At that time, the flows in the river were much higher

1 than they are today. Following graduation, I worked as a
2 civil engineer. And today I'm retired.

3 I live with my wife in Oakland. I try to
4 conserve water. I disconnected my irrigation system.
5 During the rainy season, all roof runoff is diverted to
6 the garden. I wash my car at a carwash, which recycles
7 the water. I converted my concrete driveway to gravel to
8 infiltrate the rainfall. My wife and I have become more
9 aware of the water required to produce different foods
10 and think more about the implications of our food choices
11 on water usage.

12 These are small steps in the big picture
13 surrounding this issue, but many small steps help.
14 Considering climate change, drought, the potential
15 extinction of salmon and steelhead, we Californians need
16 to come together and agree that water conservation and
17 water-use efficiency can play an important role in
18 increasing flows in the rivers that I fished 50 years
19 ago.

20 Thank you.

21 VICE CHAIR SPIVY-WEBER: Thank you.

22 Alicia?

23 And we have two -- I'm going to call two
24 panels. And if you could come up and sit together, one
25 is the Bay Area Water Supply and Conservation Agency and

1 then the Bay Area Council, which reduced its time from
2 ten minutes to two minutes. So, we'll have both of them
3 after Alicia. Thank you.

4 MS. THOMPSON: Thank you so much. Thank you
5 for your time and for being here. We have an extremely
6 multidimensional issue here on our hands and I think that
7 river flow rates are just one piece of the puzzle as
8 we've heard a little bit today.

9 Although I agree with the increased flow rates,
10 I think that many other systems need to be implemented
11 simultaneously. One of them being, let's offer some
12 subsidies and some incentives for farmers who are
13 conserving their water resources and implementing more
14 conservative practices.

15 Let's focus on groundwater recharge. We've
16 heard a lot earlier about how we know very little about
17 groundwater and how it's so critically overdrafted at
18 this point. We're pulling much more out of the ground
19 than we're replenishing and it's going to hurt us, I
20 think, and be extremely detrimental in the long run.

21 Let's start putting a tax on wells and water
22 that we're taking out of the ground. Other states are
23 doing this and it's something that California hasn't
24 started, but I think that it's a public resource. And
25 buying land shouldn't give landowners unlimited access to

1 the resources below them, at least without some sort of
2 monetary exchange for the resource. We can take that
3 water tax and put that into research for groundwater and
4 start to learn more about the movement and distribution
5 of groundwater and how to efficiently replenish it.

6 I think we can continue to make habitat
7 improvements and build more surface storage and catchment
8 systems.

9 I feel like my generation inherited a water
10 debt and crisis that I don't want to pass on to the next.
11 As a Water Board, you have immense power to protect our
12 state's natural landscapes. You have the power to leave
13 a positive legacy for future generations. Central Valley
14 is blessed with uniquely fertile soil and it behooves us
15 to take advantage of that resource.

16 And there's a certain amount of water that's
17 also needed for agriculture. I wholeheartedly agree with
18 that. I grew up in Turlock and my family is deeply
19 rooted in ag. However, there are ways to provide food
20 for families without destroying ecosystems that make this
21 state what it is. We can't put short-term interests
22 above long-term sustainability. No new practices are
23 going to be installed and implemented until there is a
24 driving force requiring us to do so. We can be that
25 driving force.

1 Transitioning to new irrigation systems may be
2 difficult and initially costly, but there's no price tag
3 on having healthy and sustainable watersheds for all
4 generations. So, although I think it's very important to
5 increase flow rates I think we should also be investing
6 our energy and money into solving the water issue
7 holistically.

8 VICE CHAIR SPIVY-WEBER: Thank you. Thank you
9 very much.

10 Les, we should consider hiring her. She's
11 quite good.

12 After these two panelists, we will take a short
13 break of ten minutes.

14 (Colloquy re: speaker order.)

15 MS. SANDKULLA: Good afternoon Madam Vice
16 Chair, members of the Board. My name is Nicole
17 Sandkulla. I'm the Chief Executive Officer for the Bay
18 Area Water Supply and Conservation Agency. I too will
19 keep my comments short in respect for your time and the
20 time of everybody here today. BAWSCA represents the
21 interests of the 26 water suppliers who purchase on a
22 wholesale basis two-thirds of the water that's produced
23 by the San Francisco regional water system, which is
24 operated by the SFPUC, the San Francisco Public Utilities
25 Commission.

1 On September 15th, 2016, this Board released
2 your recirculated draft Substitute Environmental
3 Document. This State Board proposal could cause
4 substantial reduction of water from the Tuolumne River to
5 the Bay Area for the 1.7 million residents, 40,000
6 businesses, and thousands of community organizations in
7 Alameda, San Mateo and Santa Clara counties whose water
8 interests BAWSCA represents.

9 The proposal's purpose, as you know, is to
10 update the Water Quality Requirements in the San Joaquin
11 Delta. And to establish minimum flows in major
12 tributaries, including the Tuolumne River, which supply
13 the San Francisco regional water system.

14 BAWSCA understands the value of the Bay-Delta
15 ecosystem and that the status quo is not sustainable.
16 In nine words, BAWSCA supports the objective of the Bay-
17 Delta Plan: simple, clear and understandable. In twenty
18 words, BAWSCA will work with other stakeholders to
19 protect the water quality in the Bay-Delta for the
20 humans, fish and other wildlife. Again, simple, clear
21 and understandable.

22 BAWSCA is already committed to exploring
23 scientifically proven ways of rehabilitating fish habitat
24 in the Tuolumne River, such as gravel augmentation,
25 managing fish predation and ensuring the flows support

1 habitat improvements.

2 Now your document, the SED with its appendices,
3 is large and a complex document. And I sincerely
4 appreciate the extension of the comment deadline that you
5 have provided. The SED raises a number of concerns,
6 including the unproven presumption that other water
7 supplies or transfers will be available to the Bay Area
8 in times of shortages, to make up for the water
9 reductions due to increased flows.

10 BAWSCA is also concerned that the SED fails to
11 take into account the likely actions in times of
12 shortages of other water suppliers, who use the largest
13 portion of this supply.

14 Lastly, BAWSCA is concerned that while the SED
15 recognizes that implementation of the flow proposal is
16 expected to result in potentially significant economic
17 impacts in the Bay Area, a full analysis of these impacts
18 is actually not included in the draft SED. So, as part
19 of our comments on the draft, BAWSCA will providing this
20 Board critically important data about the potential
21 environmental, economic, and other impacts of the
22 proposed actions that must be considered as part of any
23 decision on the Bay-Delta Plan.

24 So, I brought with me a map today I'd like to
25 share with you. And it shows my 26 member agencies in

1 San Mateo, Santa Clara and Alameda County. I will call
2 out in particular -- we did have a representative here
3 from East Palo Alto, who is one of my member agencies.
4 And this map shows what the residential-per-capita use
5 was in the service area during the most recent mandatory
6 reduction period. And you'll note that there are 10
7 water suppliers that serve 55-gallons-per-capita per day
8 or less during that period, including the City of East
9 Palo Alto. And that there are only 3 that serve more
10 than 80, which is actually the statewide average.

11 And we believe, looking at this, it really hits
12 home that conservation is an essential responsibility of
13 our agencies and their water customers that they serve.
14 At the same time we believe it is equally important for
15 this State Board to understand and acknowledge that
16 municipal water users, specifically in our three-county
17 area, need a reliable supply to support the economic
18 viability of their communities.

19 In a recent *Chronicle* article, State Board
20 Chair Felicia Marcus, shared her opinions on the Bay-
21 Delta Plan and the SED. Chair Marcus is correct that
22 this is not an effort to choose a winner between the
23 urban and agricultural water users or the environmental
24 advocates. BAWSCA agrees. This is an effort to protect
25 the water quality of the Bay-Delta for all users: for

1 humans, fish and other wildlife.

2 The solution may be out there, but everyone
3 will have to do their part. The Governor has indicated
4 his strong support for negotiated voluntary agreements to
5 resolve this issue. BAWSCA is committed to continuing to
6 work closely with the diverse interests and stakeholders
7 to develop that shared solution. This should be a
8 strategic process, not a legal brawl. It is about
9 sharing the river for our mutual benefit. It requires
10 tough action and respect for all interests, ingenuity,
11 open minds, sticking with the facts, crafting a solution
12 in which all users can survive and thrive.

13 BAWSCA is pleased to help. I thank you for the
14 opportunity to speak to you today. And I will leave
15 copies of this map and my statement with your secretary.

16 VICE CHAIR SPIVY-WEBER: Thank you very much.

17 MS. SANDKULLA: Thank you.

18 VICE CHAIR SPIVY-WEBER: Adrian?

19 MR. COVERT: Good afternoon, my name is Adrian

20 --

21 VICE CHAIR SPIVY-WEBER: Oh, turn on your mic.

22 MR. COVERT: Good afternoon. My name is Adrian
23 Covert. I'm the Vice President for Public Policy at the
24 Bay Area Council. I'd like to thank the Board for
25 providing this opportunity to provide public comment on

1 the Bay-Delta Water Quality Control Plan.

2 The Bay Area Council is the San Francisco Bay
3 Area largest multi-sector business association,
4 representing the largest employers in technology,
5 biotechnology, finance, trade, utilities, engineering and
6 construction and much more.

7 The Bay Area is home to California's most
8 valuable economic asset. The San Francisco, Oakland, San
9 Jose Metropolitan area boasted a \$667 billion economy in
10 2015. If this region was its own country, it would have
11 the 22nd largest economy on earth. San Jose's economy
12 alone grew at a rate of 8.9 percent in 2015, outpacing
13 even China. Despite only have 17 percent of the state's
14 residence, the Bay Area generates about 30 percent of the
15 state's general fund revenues.

16 But the Bay Area economy cannot function
17 without water from the Tuolumne River. Water from the
18 Tuolumne River accounts for approximately 85 percent of
19 San Francisco's fresh water and about 55 percent of the
20 fresh water for the 1.8 million described by our previous
21 presenter in the BAWSCA service area, across four
22 counties. If the Bay Area's Tuolumne River users were
23 their own hydrologic region, they'd have the lowest water
24 rates in California.

25 Residents in the San Francisco-BAWSCA combined

1 service area used just 54 gallons per day over the last
2 12 months, compared to the statewide average of 82
3 gallons. San Francisco residents themselves used just 41
4 gallons per person per day in 2015, one of the lowest in
5 the industrialized world. However, the San Francisco
6 Public Utilities Commission estimates its users would
7 face cuts up to 50 percent during droughts with rationing
8 beginning immediately after a first sign of drought.

9 This level of rationing could only be avoided
10 by major investments in new supplies that have no
11 certainty of being able to be procured. Because the Bay
12 Area is already the lowest water user in California,
13 these cuts would leave our region no place to go. And
14 could have devastating economic impacts by crippling our
15 already overwhelmed housing supply and undermining water-
16 intensive institutions such as hospitals, academia, the
17 biotech industry and data centers.

18 Between 2011 and 2015 the region created
19 500,000 jobs and just 65,000 new units of housing. This
20 imbalance has led to skyrocketing and inequality and the
21 widespread displacement of poor and middle-class
22 families.

23 VICE CHAIR SPIVY-WEBER: Are you wrapping?
24 Because you had two minutes.

25 MR. COVERT: Okay.

1 VICE CHAIR SPIVY-WEBER: Sorry.

2 MR. COVERT: I originally had ten.

3 VICE CHAIR SPIVY-WEBER: I know.

4 MR. COVERT: And I foolishly took off seven.

5 VICE CHAIR SPIVY-WEBER: And I moved you up,
6 because you had two.

7 MR. COVERT: Okay. Give me one more minute, if
8 you don't mind? Thank you.

9 By 2040 the region is projected to create an
10 additional 1.3 million jobs necessitating 820,000 new
11 households. The draft SED, we fear, could forever and
12 completely put solving the region's housing crisis out of
13 reach and force our employers to expand elsewhere.

14 In conclusion, the Bay Area likely creates more
15 economic value per gallon of Tuolumne River water used
16 than is created by any other water source in California,
17 and probably the United States. The Bay Area Council
18 applauds the Board's intent to improve the ecosystem of
19 the San Joaquin River and its tributaries and appreciates
20 the difficulty in balancing the human needs of water and
21 the environmental needs of water.

22 We urge the Board to take whatever measure is
23 necessary to meet these competing needs through voluntary
24 agreements.

25 VICE CHAIR SPIVY-WEBER: Thank you.

1 MR. COVERT: Thank you for considering our
2 views.

3 VICE CHAIR SPIVY-WEBER: Thank you very much.

4 We will take a break until five minutes after
5 3:00. And Joe Sallaberry will be the first person up
6 followed by Vance Ahlem, David Ahlem, Mike Tietze as in
7 "pizza," David Ragland, Elizabeth Lasensky, Kirk Wilbur,
8 Darcie Luce, Mark Gonzalves, Barbara Barrigan-Parrilla
9 and Tom Hicks.

10 (Off the record 2:54 p.m.)

11 (On the record at 3:05 p.m.)

12 MR. V. AHLEM: Ready?

13 VICE CHAIR SPIVY-WEBER: Yes.

14 MR. V. AHLEM: Okay. Good evening, Madam Vice
15 Chair, thank you for your time today. My name is Vance
16 Ahlem. I'm a fourth-generation farmer from Merced
17 County. We're farming the same ground we settled in
18 1901. I currently oversee farming operations that
19 provides direct employment to 50 people, with a payroll
20 of about \$2 million to our local economy a year.

21 Each year we constantly reevaluate irrigation
22 practices to gain efficiency and better use valuable
23 water supply that we currently have. Some of these
24 upgrades have been going away from flood to center pivot
25 irrigation technology, minimal tillage, and even dipping

1 into the technology sector for soil mapping for
2 evaporative transportation rates to help us better use
3 the water we have. While these are helping reduce our
4 water use I fear that further cuts would hinder our
5 ability to produce high quality feed and food for the
6 audience, who all looks well-nourished today, and I'm
7 glad to see that.

8 I was going to hit on the SalSim report, but
9 we've already acknowledged that as flawed and changes
10 need to be made to it. So having said that I would like
11 to ask staff if there is any other potential flaws,
12 matrixes that are wrong that they have found, or how we
13 proceed from here.

14 I think a great model was shown today on your
15 adaptive management by the U. S. Department of Interior
16 and we have definitely assessed the problem. We have a
17 design, a design that's flawed, and going further with
18 implementation on the flawed plan will lead to not only
19 more economic damages to the Valley, but also will not
20 get you the desired increases in fish population you
21 want. So I implore you to please take a step back, look
22 at all the available science out there from the IDs, from
23 your own department, from the FERC relicensing going on
24 with TID, and reevaluate before we make a fatal mistake.
25 We have one chance to get this right.

1 In closing, your groundwater impacts, I feel,
2 are another thing that needs to be addressed. I
3 currently do farm in an irrigation district that has no
4 water. We have raised our fees 300 percent to start
5 addressing SGMA and these unimpaired flows could damage
6 all of that work. Thank you for your time.

7 VICE CHAIR SPIVY-WEBER: Thank you. What
8 irrigation district are you in?

9 MR. V. AHLEM: Eastside Water District.

10 VICE CHAIR SPIVY-WEBER: David?

11 MR. D. AHLEM: Good afternoon. My name is
12 David Ahlem. I'm the President and CEO of Hilmar Cheese
13 Company. Hilmar Cheese Company is located in Hilmar,
14 California. We presently employ nearly 1,000
15 Californians and receive milk from nearly 200 family
16 dairy farms located in Merced, Stanislaus, and San
17 Joaquin counties.

18 I'm here today because I'm concerned about the
19 long-term viability of ag in this region and the
20 communities that depend on a predictable and reliable
21 supply of water. Our employees and the families
22 supplying us milk will be directly impacted by the
23 proposals we are considering here today.

24 I've got three requests. Fully consider the
25 economic impact. Milk's California's number one valued

1 ag commodity and the dairy industry is responsible for 65
2 billion in economic activity. I'll leave a report that
3 details that. This economic activity is dependent upon a
4 reliable supply of pasture and field crops. Forage crops
5 are foundational to a cow's diet. There are no
6 nutritionally adequate substitutes and importing these
7 feedstuffs is not economically feasible. If forage crops
8 are nearly eliminated under the 40 percent unimpaired
9 flows, as the SED predicts, dairy farms will be
10 eliminated, local food production eliminated, and all the
11 beyond the farm jobs that are dependent on this fresh
12 milk supply.

13 The SED fails to fully consider the value of
14 the loss of forage crops by failing to consider the
15 downstream impacts. When these are fully considered, I
16 believe the impacts of the proposed unimpaired flows will
17 have a devastating economic impact on this region.

18 Two, recognize that disadvantaged communities
19 will be hit the hardest. Water is the lifeblood of our
20 communities in this region. This region is home to 1.5
21 million people, most of whom live in disadvantaged
22 communities. Milk is a fresh, perishable product that
23 cannot be transported long distance. If a milk supply is
24 not readily available, dairy processors will be forced to
25 close or relocate out of state, taking their skilled

1 year-round jobs with them. Hilmar Cheese Company alone
2 represents \$100,000 million in annual payroll and nearly
3 1,000 jobs. In our case, Merced County would be the
4 hardest hit, where the unemployment rate is 8.6 percent,
5 already 60 percent higher than the state average.

6 In the end, this decision will hurt people and
7 the most disadvantaged communities in the state. This is
8 why I believe it's critical we understand the impacts and
9 mitigate the negative outcomes for people in this region.

10 MS. D'ADAMO: Thank you. I have two questions.

11 MR. D. AHLEM: You bet.

12 MS. D'ADAMO: Okay. So first of all to the
13 extent that you're able to answer this question, because
14 I understand -- well first of all, how many producers do
15 you rely on?

16 MR. D. AHLEM: Two-hundred.

17 MS. D'ADAMO: Two-hundred?

18 MR. D. AHLEM: Yes.

19 MS. D'ADAMO: So do you have a sense of the
20 forage crops that are supplying the two-hundred dairymen?
21 In other words, you know, just --

22 MR. D. AHLEM: What are they?

23 MS. D'ADAMO: Yeah. Are they supplying their
24 own, on average, or what sort of a crop mix are you
25 seeing?

1 MR. D. AHLEM: It's a mix, so it's either
2 they're growing their own or they're relying on neighbors
3 to sell them those products as well.

4 MS. D'ADAMO: Okay. So to the extent that we
5 are making any assumptions that a dairyman may retire
6 their forage crop, so that the water can be moved to
7 somebody with permanent crops, does that make any sense?

8 MR. D. AHLEM: No, not on an ongoing basis,
9 it's just not practically feasible. So on a small degree
10 from -- possibly, but forage is key to a ruminant's diet
11 so nutritionally you can't replace it. There's not a
12 substitute, so if forage goes away you're talking about
13 importing and the distances are so far that it's not
14 economically feasible. You're going to see cows leave
15 and dairies leave the state before you see that happen,
16 if we have unpredictable and unreliable water. And the
17 chances of that are even greater if you consider the SGMA
18 impacts that we're looking at as well.

19 MS. D'ADAMO: Okay. And then that was my next
20 question and that is where are you going to get the feed
21 if you happen to have a dairy where you're reliant on --
22 maybe you don't have enough land to grow your own forage
23 crops entirely and you're reliant on your neighbors --
24 where are you going to get that feed? And I hear you
25 saying that those dairies would likely be slated for

1 closure. But if you got feed from someplace else where
2 would it be coming from?

3 MR. D. AHLEM: You're going to struggle to find
4 that up and down the Valley if we're all in this basket,
5 so it's already a competitive market for feed. You're
6 looking at bringing in feed from out of state and that's
7 just not economically feasible.

8 MS. D'ADAMO: Okay. Thank you. Thank you.

9 MR. D. AHLEM: So?

10 VICE CHAIR SPIVY-WEBER: No, that's it. Thank
11 you.

12 MR. D. AHLEM: That's it. That's my time, so I
13 just encourage bring all the stakeholders to the table
14 and get a good settlement out of this, so thank you for
15 your time.

16 VICE CHAIR SPIVY-WEBER: Thank you. Thank you.
17 Chenoa?

18 MS. URCHISON: Good afternoon, I'm Chenoa
19 Urchison. I am the Secretary for Denair Chapter FFA.
20 And first off I'd like to thank you on behalf of my FFA
21 chapter and any kids who have come here and spoken. As
22 members of FFA we'd just like to thank you for giving us
23 your time, to come up here and speak.

24 First off, I would like to talk about how I
25 could be affected by the proposed revision, but I think

1 that we need to step back and take a look at the bigger
2 picture. Back in 2012, when the Bay-Delta Plan was
3 revised a draft clearly stated, and I quote, "That there
4 would be a significant, but unavoidable impact to our
5 region." Well, since then our region has worked
6 tirelessly to cut down and conserve water usage. And has
7 done so quite successfully.

8 Please tell me that we didn't waste billions of
9 dollars building dams, hatcheries, canals and farms in
10 efforts to have a reliable source of water that was
11 supposed to be ours for over 100 years. So I say to the
12 Delta our region has been generous enough, even years
13 later after all the water conservation efforts, you still
14 want more. The fact of the matter is our region has
15 nothing more to give. It's time to start thinking of the
16 vast impact this proposed Plan will have, the lives and
17 futures and jobs of countless people in our region will
18 affected.

19 All in all I'm asking that you sit and rethink
20 all of the impacts, no matter how small you think that
21 they might have. Revise and rethink as much as possible.
22 I urge you to reconsider. The State Water Board has
23 already taken so much for our region, so I just ask you
24 to keep this one question in mind. What if this time
25 you're asking for too much?

1 VICE CHAIR SPIVY-WEBER: Thank you.

2 Mike Tietze, as in pizza, Tietze.

3 MR. TIETZE: Yeah, Mike Tietze. Thank you for
4 allowing me to comment this afternoon. I'm a certified
5 hydrogeologist and engineering geologist in the State of
6 California. I'm currently working for Stanislaus County
7 to help them develop and implement a discretionary well
8 permitting program under their new groundwater ordinance,
9 which was the first in the state adopted that was
10 deliberately aligned with SGMA. Currently, we're in the
11 process of gathering regional data to characterize
12 groundwater conditions and assessing available tools for
13 the same. I'll get to that a little bit later.

14 We all understand that the SED comes on the
15 heels of a long and detailed evaluation of unimpaired
16 flow benefits to aquatic habitat. And that as a
17 programmatic document it's not going to be able to
18 analyze the impacts in as much detail. However, the
19 approach taken to groundwater impact evaluation in the
20 SED represents a fundamental imbalance in how ecosystem
21 benefits are evaluated compared to regional adverse
22 impacts to water supplies.

23 Specifically what I mean is this, where on one
24 hand work on evaluating instream ecosystem benefits was
25 informed by several scientific panels, there were no

1 panels to inform the impact analysis. Instream processes
2 were evaluated using several models, but the approach to
3 groundwater resource evaluation was very generalized,
4 based on an incomplete water budget, and did not include
5 any modeling.

6 So on the one hand the ecosystem effects are
7 able to -- the ecosystem evaluation is able to predict
8 specific temperature profiles along the streams, acre
9 days of floodplain inundation and it's tied very clearly
10 to benefits, outcomes and objectives. On the other hand
11 the groundwater impact analysis uses a regionalized
12 theoretical metric of one inch of draw-down to predict
13 whether significant or adverse impacts to water supplies
14 will occur. That metric is very abstract and there's no
15 explanation how it was derived, why is it not one-half
16 inch or two inches? And it's virtually impossible to
17 tell even the approximate location of where adverse
18 impacts will occur.

19 Finally, the ecosystem analysis spans a range
20 of potential conditions whereas the water supply impact
21 analysis is based on a single groundwater use scenario.
22 The scenario was selected ostensibly as the most likely
23 outcome, but no evaluation was performed to see if it
24 actually meets the criteria for being sustainable under
25 SGMA.

1 VICE CHAIR SPIVY-WEBER: Thank you.

2 MR. TIETZE: For a meaningful analysis, we
3 would expect that at the very least there would be a
4 sensitivity or an uncertainty analysis done.

5 VICE CHAIR SPIVY-WEBER: Thank you.

6 MR. TIETZE: And as it is, I believe it leaves
7 the state vulnerable to criticism of a policy bias.

8 VICE CHAIR SPIVY-WEBER: Thank you very much.

9 MS. D'ADAMO: Sir, I have a request that as
10 part of your written comments, could you provide
11 recommendations as to how a more detailed analysis on
12 groundwater could be done so that we could incorporate
13 SGMA? And I'm not just saying just that it should be --
14 suggesting that you say it should be done -- but
15 providing very specific information about the current
16 reports and information that could be readily available,
17 so that the staff would be able to incorporate it into
18 its analysis?

19 MR. TIETZE: Yes. And in fact if I could just
20 add for a moment? I have to respectfully, but
21 emphatically disagree with what was said earlier about
22 all the available tools having been used. C2VSim is a
23 model that was specifically developed by DWR for this
24 kind of evaluation. And it's currently being utilized by
25 several local efforts in Merced, Stanislaus and San

1 Joaquin counties, and would be very capable of doing this
2 kind of evaluation without having to go to protracted
3 lengths to gather additional data.

4 VICE CHAIR SPIVY-WEBER: Thank you.

5 David?

6 MR. RAGLAND: Hello. Thanks very much to the
7 Board and to all of the people that have worked so hard
8 on this Plan revision and to everyone who's come to give
9 their input. My name's David Ragland. I'm a family man,
10 an entrepreneur since I was 14, an employer. I'm a civil
11 engineer and land surveyor in Senora, California. Famous
12 now locally as the yokel who jammed his Thule box against
13 the parking garage roof.

14 I began my working career at 14 in the sport
15 fishing industry, tying flies and working at Johnson's
16 Bait and Tackle in Yuba City. My stepfather and my
17 friends and adopted uncles also all worked and depended
18 on the rivers as guides and at Johnson's. I was a poor
19 kid, living in a campground that wished it was a trailer
20 park, living on salmon and other fish. My brother Miles
21 was a commercial fisherman out of Bodega Bay who had to
22 change careers due to declining stocks of salmon and
23 other fish, with disastrous results on his life.

24 Diversion, one definition is the action of
25 turning something aside from its natural course. The

1 irrigation districts and San Francisco are very good at
2 this with respect to water. Another definition is
3 something intended to distract attention from something
4 more important. And I'm thinking that these folks are
5 even better at that. Have you seen the information
6 campaigns? Even their names are not honest, "Worth your
7 fight." Worth my fight to help them continue devastating
8 the Tuolumne River, so that they can keep extracting six-
9 tenths of a billion dollars in revenue a year? How
10 about, "Save the Stan?" It should be called, "Save the
11 Stan for the people who dammed it, removed the upper 60
12 percent of the spawning area, and take about half of the
13 average yearly flow out of it."

14 They even describe these river flow increases
15 that we're now talking about as diversion and taking
16 water from the river -- the exact diametric opposite of
17 the truth.

18 VICE CHAIR SPIVY-WEBER: Thank you so much.

19 Elizabeth? Elizabeth Lasenski. She already
20 spoke, Okay.

21 Kirk?

22 MR. WILBER: Members of the Board thank you for
23 the opportunity to address you today. My name is Kirk
24 Wilber and I represent the California Cattlemen's

1 Association including a number of beef producing families
2 within the plan area.

3 We will be filing more extensive comments with
4 the Board prior to the deadline. Today, I wanted to
5 focus on some concerns that CCA has about the economic
6 analysis done within the SED.

7 Firstly, the SED significantly under examines
8 the potential impact of the proposed Plan changes on the
9 beef industry. Throughout all of Chapter 11 and the
10 Appendix G, I think there's about five paragraphs that
11 speak specifically to beef production. That's simply not
12 enough analysis. Not only does the SED fail to properly
13 examine the impacts on the beef community, the
14 conclusions drawn from a scant analysis also fail to
15 accurately reflect the economic burden that the new faux
16 standards would impose upon the beef producing community.

17 The SED acknowledges that under reduced surface
18 water conditions summer pasture can become scarce and may
19 limit grazing opportunities, resulting in potential
20 reductions in herd size. What the SED fails to
21 acknowledge, however, is that California's cattlemen have
22 already significantly reduced herd sizes in response to
23 the ongoing drought and further reductions will imperil
24 their economic viability.

1 The SED downplays the loss of pasture resulting
2 from reduced surface water availability by mentioning
3 that Cal CAF operations are able to substitute other food
4 sources for irrigated pasture land. But the SED fails to
5 appreciate the significant economic burden of securing
6 and transporting that substitute feed source. The SED
7 predicts that the impacts upon grazing are less than
8 significant, because much of the pasture in the plan area
9 is unsuitable for conversion to other crops or
10 nonagricultural uses. However, the risk of conversion is
11 far from the only relevant concern. This analysis
12 ignores any consideration of whether that pasture
13 continues to have any economic viability for that
14 rancher's livelihood. Additionally, the SED overlooks
15 the reduction in agricultural land values that would
16 attend the reduction in water supply reliability.

17 Finally, I just wanted to state that all of
18 those harms that I've mentioned will be exacerbated by
19 the failure of the SED to account for the Sustainable
20 Groundwater Management Act. That will reduce water
21 supply even further and will increase those harmful
22 effects upon ranchers.

23 In conclusion, if I may real quick, I don't see
24 this as a situation where we're asking you to prioritize
25 agriculture above other beneficial economic uses -- or

1 beneficial uses, I should say. What we're asking is
2 simply that you fully examine the other alternatives to
3 strike a better balance among all beneficial uses
4 including agriculture. Thank you.

5 VICE CHAIR SPIVY-WEBER: Darcie? Darcie Luce?
6 Darcie Luce?

7 MS. LUCE: Hello. Thank you, Board members and
8 Vice Chair Spivy-Weber for the opportunity to speak to
9 you today. My name is Darcie Luce and I'm with Friends
10 of the San Francisco Estuary. And as our name implies,
11 we urge actions that ensure a thriving, resilient Bay-
12 Delta Estuary for generations to come. Just a few
13 thoughts today, to be articulated further in our comment
14 letter.

15 Number one, the economic harm anticipated by
16 farming communities and urban areas has been a
17 significant focus of these meetings. But the economic
18 benefits of these recovered river systems have received
19 less attention. The revised SED does a much better job
20 than the previous version in referencing potential
21 economic benefits including fishing, recreational values,
22 and nonuse or existence values.

23 However, the SED makes quantitative estimates
24 of impacts, but only offers a qualitative analysis of
25 some benefits leaving us with trying to balance hard

1 numbers against an incomplete narrative description. We
2 know that a monetary value can be ascribed to a healthy
3 river system, whether or not people intend to use it for
4 recreation or other active uses. And its value can be
5 calculated as provided by some examples in Chapter 20 of
6 the SED. In fact, one of the most comparable examples in
7 Chapter 20, the 1990 Upper San Joaquin River study would
8 indicate a possible total willingness to pay a benefit of
9 almost \$20 billion annually, in 2009 dollars, as a result
10 of restoring salmon on the Upper San Joaquin River
11 through higher instream flows.

12 Furthermore, the value of ecosystem services
13 that restoring these rivers and their salmon populations
14 could provide in the form of nutrient cycling, sediment
15 transport, soil and water quality, reduced water
16 treatment requirements, aquatic and terrestrial food webs
17 and other services. All of that could total in the
18 hundreds of millions of dollars. A quantitative estimate
19 of these benefits should be developed or you run the risk
20 of underestimating their value.

21 Secondly, adaptive management strategies must
22 balance flexibility with strong enough safeguards to
23 protect and restore salmon and other fish and wildlife,
24 water quality, sediment transport and the river
25 ecosystems. These safeguards should be maintain natural

1 variability and a hydrograph to ensure these benefits and
2 enough flows must be available for them to be successful.

3 And finally, voluntary settlement agreements
4 must achieve the benefits that the Water Quality Control
5 Plan is responsible for. And the SED provides an
6 important backstop to these discussions and ensures that
7 a key system recovery does not get bargained away in the
8 process.

9 Thank you very much.

10 VICE CHAIR SPIVY-WEBER: Thank you.

11 Mark?

12 MR. GONZALVES: Good afternoon, and thank you
13 for holding this meeting. My family has been in
14 California since the 1700s. My ancestral grandmother was
15 a Melones Indian and she was the first recorded Native
16 American to marry a Spaniard in the 1700s, which was
17 officiated by Junípero Serra. And I think about what the
18 river systems were then.

19 You said we can't go back to the beginning.
20 But when we're arguing over 10 percent of the water if
21 you think historically what have we done to the
22 California rivers, which one is still thriving and
23 sustained like it was originally? I don't think there's
24 a very big answer to that question. So to -- and
25 gradually through mining, diversions, farming, it is

1 incrementally destroyed, gradually, gradually, gradually.
2 So now when we're here talking about this 10 or 15
3 percent of water we all recognize that river systems are
4 essential for the life of California. So we have to
5 incrementally revive it through special application,
6 better irrigation.

7 But the focus should be to have a thriving
8 river system, which we don't have right now. So anything
9 we can do to that is essential and we have to think of
10 the big picture. You know, we can't think of the next 10
11 years. We should be thinking of the next 300 years.
12 Thank you.

13 VICE CHAIR SPIVY-WEBER: Thank you.

14 Barbara followed by Tom.

15 MS. BARRIGAN-PARRILLA: Vice Chair Spivy-Weber
16 and Board members, first I want to wish you all a Happy
17 New Year. I wish you peace and prosperity and good
18 health. And today, I'm here to ask of you to grant the
19 same thing to the people and fisheries of the Delta.

20 Recent news reports over the vacation break
21 explain that fish are not rebounding. Not because flows
22 don't matter, but because we have depleted the estuary of
23 flows for far way too long. We can no longer split flows
24 in a way that favors unsustainable growth. This is why
25 the SED is flawed, 40 percent unimpaired flows will not

1 save or restore fisheries or protect urban and
2 environmental justice residents from degraded water
3 quality.

4 When I'm talking about unsustainable growth,
5 I'm talking about what I saw on my family trip to L.A.
6 and back. The west side of Kern County, on the south end
7 of Kern County, has all new sticks of almond fields as
8 far as the eye could see. And they're all young juvenile
9 almond trees all the way planted up through Westland
10 along the I-5. There are more green lawns in L.A. than
11 there are in the urban areas around the Delta. There's
12 no shared sacrifice being asked of Californians to
13 preserve the Bay-Delta Estuary.

14 What is proposed in the SED is only enough
15 water to prolong time until we reach extinction of
16 fisheries -- fisheries, which support multiple economies
17 in the Delta and coastal economies. A lack of needed
18 flow will also lead to a weakened salinity standard that
19 will impact domestic use of water for hundreds of
20 thousands of people in the Delta, agriculture jobs, and
21 tens of thousands of people who are subsistence fishers.

22 If the Board rules a 40 percent average
23 unimpaired flows, and a weakened salinity standard, are
24 the new standards for the San Joaquin River then you will
25 make the Delta the sacrifice region for California. The

1 State of California will be writing off the Bay-Delta
2 Estuary for unsustainable agricultural development in the
3 San Joaquin Valley. And the State of California will be
4 writing off the people of the Delta for exports of
5 almonds.

6 My last sentence is that this will violate
7 social, economic and environmental justice policies as
8 set by the State of California. Thank you.

9 VICE CHAIR SPIVY-WEBER: Thank you.

10 Jeanine, did you have something?

11 (No audible response.)

12 Okay. Tom. And after Tom could the San
13 Francisco PUC come up and have a seat in front? Yes, go
14 ahead.

15 MR. HICKS: Vice Chair and other Board members,
16 thank you for the opportunity to speak. My name is Tom
17 Hicks and I'm here in two capacities today. One is as a
18 San Francisco resident, married, I have two children,
19 five and seven, and they are having their first day back
20 in school today. They couldn't be here, but at the very
21 least we are recreationalists. We enjoy the Tuolumne
22 River. We enjoy our time away from the urban sprawl of
23 the Bay Area and we get out to the Central Valley and
24 many places. And we just make any appeal to restoring

1 the environmental values that are obviously the backdrop
2 of this epic public debate.

3 But more specifically and the second reason why
4 I'm here today is in my capacity as an attorney. I'm a
5 water attorney. I'm not here on behalf of any client
6 today and I'm not getting paid. I drove up to San
7 Francisco on my own dime. But at the very least I do
8 represent a number of landowners and increasingly public
9 interest organizations that, when they look at the SED
10 and they see a big section on voluntary agreements, for
11 some of us that's shorthand for a section of the Water
12 Code called Section 1707.

13 These voluntary tools do risk going into
14 machine gun fire of sorts if agencies like the Wildlife
15 Conservation Board are putting publicly backed water bond
16 dollars on the table for the assurance that the State of
17 California and Californians, are getting an environmental
18 benefit that enhances stream flow. Whether it be
19 groundwater sustainability or other mathematics and
20 metrics it becomes very difficult for any so-called
21 petitioner to initiate a petition that might run the
22 gauntlet of trying to come out of any of these
23 tributaries: the Merced, Tuolumne or Stanislaus.

24 And again, this is only Phase 1. Phase 2 has other
25 tributaries in the Sacramento that each could voluntarily

1 bring a contribution to an instream flow target outside
2 the regulatory gambit of Endangered Species Act, the
3 Clean Water Act, and of course the Public Trust Doctrine.

4 So all I would ask is that the state agency do
5 its utmost to protect the integrity of those expenditures
6 of public dollars for environmental values, but
7 recognizing that it's not a all or nothing regulatory
8 gain. Thank you.

9 VICE CHAIR SPIVY-WEBER: Thank you. Thank you
10 very much, Tom.

11 And after the San Francisco PUC has their ten
12 minutes for their panel I will ask for those who want to
13 speak for just one minute, one minute, you can jump the
14 queue. You can start lining up over here about five
15 minutes into their presentation. Thank you.

16 So Michael -- oh, I'm sorry.

17 MR. JUE: Good afternoon, Board. Thank you for
18 the opportunity to present today and I thank you for your
19 patience all day in accepting comments from everyone. My
20 name is Tyrone Jue. I'm a Senior Advisor to San
21 Francisco Mayor Ed Lee, and today representing Mayor Lee
22 and the City and County of San Francisco.

23 The City and County of San Francisco owns and
24 operates the Hetch Hetchy Regional Water System, which
25 provides a reliable, high quality water supply to 2.6

1 million people in the Bay Area. Eighty-five percent of
2 our system's water comes from the Tuolumne River and it
3 is a critical pillar supporting the economic vitality of
4 the Bay Area and the State of California.

5 Over the last decade, San Francisco and our
6 regional customers have been making significant
7 investments to improve the reliability of this system.
8 We are now completing a \$4.8 billion program that will
9 improve our ability to deliver water after a major
10 earthquake. And that also includes new water recycling
11 and groundwater facilities.

12 We deeply care about the Bay-Delta ecosystem as
13 the defining characteristic of our region. And believe
14 that another defining characteristic is our regional
15 water system and how our San Francisco and regional
16 partners efficiently use water from that system.

17 We appreciate the Board granting a 60-day
18 extension to allow for further discussions. And believe
19 that a voluntary settlement is the best path to achieve
20 the balanced solution required that will both improve the
21 environment and provide sufficient water for our region
22 and other important interests.

23 I would now like to turn it over to Michael
24 Carlin, Deputy General Manager from the SFPUC.

25 MR. CARLIN: Good afternoon, Board members,

1 it's a pleasure to be here today. I hopefully will not
2 use the entire 10 minutes that we have, because I'm
3 trying to sell some minutes in the hallway to some folks.
4 (Laughter.)

5 I just wanted to make some comments. We are
6 going to submit a comment letter and it's going to be
7 much more detailed than the comments I make today. But
8 just to put things into perspective, we hear lots of
9 things about how much water do we divert from the
10 Tuolumne River and such. We divert about 14 percent of
11 the unimpaired flow. And when you consider the Tuolumne
12 River is about 1.8 million acre feet, that's a pretty low
13 number.

14 The second thing is when you look at the entire
15 Delta we're 0.7 percent -- 0.7 percent of the unimpaired
16 flow in the Delta. That's all the rivers, everything.
17 And we serve about 7 percent of the state's population
18 and businesses in our service area. So when you look at
19 the impact to us, and I'll talk about this a little bit,
20 it's not proportional to the amount of water that we
21 actually divert. And we want to make sure you understand
22 that, because it really hurts us in a lot of ways.

23 You heard from other people testifying, our
24 wholesale customers, Nicole Sandkulla, the Bay Area
25 Council, you know, our water use is really low. Right

1 now the average water use in our service area, including
2 San Francisco, is 54. When you look at just San
3 Francisco it's 41. And you've got to remember that
4 number is 41, because we'll talk about that a little bit
5 later about the impact to our customers during dry
6 periods. It's not during the high wet periods, it's
7 during the dry periods when everybody is suffering across
8 the state.

9 Now one of the things that you talked about
10 today, and I appreciate, is the adaptive management and
11 the adaptive implementation of the flow measures. And I
12 think this is really, really important, because one of
13 the things that we don't see in the document that we need
14 to kind of consider -- and we saw this in the recent
15 letter from the State Board Chair to the Governor -- is
16 creating a framework for accepting voluntary agreements.
17 I think this is the way to go and it would exceed the
18 proposed fish and wildlife objectives that you have
19 proposed.

20 At the same time you're actually working on the
21 Sacramento River. And we need to understand how the
22 Sacramento River impacts the San Joaquin River, because
23 it is an ecosystem. And you can't consider these things
24 in isolation. And how they kind of fit together in the
25 end with everything else that happens, is important.

1 One of the points -- when I go back to saying
2 0.7 percent of the unimpaired flow into the Delta --
3 please remember you have a State Water Project, a Central
4 Valley Project that actually takes more water out of the
5 Delta than our 0.7 percent. But we're asking to pay a
6 huge price for that. So what is the impact on our
7 system? We have long-standing agreements with the
8 Modesto and Turlock Irrigation Districts. And that's
9 what really kind of drives -- these are contractual
10 agreements. We go back over 100 years on the river, and
11 many of them are here today, and making sure that I say
12 everything correctly. But in a drought or if we had to
13 give up water, we would have to give up 52 percent of the
14 water, based upon the agreement we have with the Modesto
15 and Turlock irrigation districts. That's what really
16 hurts us in a dry year.

17 If this unimpaired flow is just a straight
18 objective, a standard that has to be met, even in a
19 critically dry year it hurts really hard in the Bay Area.
20 Remember that 41 gallons? Imagine you only have 20 in a
21 dry period, so every resident has 20 gallons of water per
22 day to use. Four five-gallon buckets, just think of it
23 that way, and how are you going to use them? And that's
24 in multiple dry years whether it's at 223 million gallons
25 a day, which we're delivering now, or 265 million gallons

1 a day.

2 We're looking at it every which way of how to
3 do this and the uncertainty that we have is basically, we
4 do not know if we can actually build projects to make up
5 the difference or have water come from someplace else to
6 make up the difference. We have a contractual obligation
7 with our wholesale customers, 184 million gallons per
8 day, again a contractual obligation with our customers.
9 San Jose and Santa Clara are not permanent customers with
10 us. They're interruptible. Would you like to tell the
11 Mayor of San Jose that we have to interrupt his water
12 supply, because we no longer have a reliable source of
13 water to serve them? I don't think so.

14 You heard from East Palo Alto today. East Palo
15 Alto has hit their contractual limit. They're trying to
16 work something out with other communities, such as Palo
17 Alto, but the uncertainty of the reliability of the water
18 system going into the future right now has pushed
19 everybody away from the negotiating table. So it has a
20 lot of impacts on housing and jobs in our service area.

21 What is our response to your proposal? Well,
22 we need to take action for the fish. But we disagree
23 with your staff's proposal, plain and simple. Our
24 comments will focus on our potential water supply
25 impacts, our doubts about the benefits for the fish and

1 wildlife, and if there's a better way we can do this,
2 we're going to propose it. And based on the information
3 that we've done with the irrigation districts, we heard
4 staff kind of say something about those today. I don't
5 agree with those, but that's okay.

6 So we'll continue to develop our comments with
7 our partners on the San Joaquin River, with the Modesto
8 and Turlock irrigation districts, with the San Joaquin
9 Tributaries Authority. And we are actively exploring
10 voluntary agreements and we will continue to explore
11 voluntary agreements because that's the better way to go.

12 In the end we think that is going to be painful
13 and costly to come to an agreement with all these
14 parties. It's not going to be easy, but it'll be
15 durable. It'll be lasting. And it'll get for the
16 environment something sooner rather than later if we have
17 to go into some sort of protracted litigation.

18 So we're hopeful and we are willing to work
19 with you, your staffs and all those other parties, to see
20 if we can come up with a solution that we can all agree
21 to across the board. Thank you.

22 VICE CHAIR SPIVY-WEBER: Thank you.

23 Go ahead.

24 MS. D'ADAMO: I have a question. First of all
25 thank you for your leadership on the settlement and

1 discussions, and thanks for all of the collaboration that
2 the City has been involved in with the agricultural
3 communities. I think it's a partnership that could
4 really set the standard for other places in the state
5 with this whole fish versus farm and urban areas versus
6 rural areas. What you're doing can pull the pieces
7 together and so really appreciate your work on this.

8 The question that I have for you has to do with
9 your economic analysis. So I will just be very up front
10 that there have been questions about the analysis that
11 the City had submitted in the last round. And I know
12 that you're updating it. And so just want to give you an
13 opportunity here to maybe shed some light on the analysis
14 that you already submitted, and any changes in
15 methodology or approach that you'll be using in the most
16 current SED that's before us.

17 MR. CARLIN: Ellen?

18 UNIDENTIFIED SPEAKER: Mike, do you want me to
19 answer?

20 MR. CARLIN: No, it's okay. It's not a
21 Jeopardy show. (Laughter.)

22 I'm calling up Ellen Levin who's the Deputy
23 Manager for our Water Enterprise and she's the closest
24 one to the economic analysis.

25 MS. D'ADAMO: Yeah, and the reason I ask --

1 we're going to get your comments, but I always think it's
2 helpful to just hear from folks sort of on the highlights
3 and some of the key areas that we should be looking for
4 when we get your comments.

5 MS. LEVIN: Sure. I'm Ellen Levin. I'm the
6 Deputy Manager for Water at the San Francisco Public
7 Utilities Commission.

8 The analysis that was submitted in 2013, that
9 supported our comments on the SED for 2012, was actually
10 an analysis that was done to support a Federal Energy
11 Regulatory Commission administrative law judge proceeding
12 in 2009. We didn't have a lot of time to produce
13 comments on the 2012 SED and so our socioeconomist used
14 the bases of that analysis to look at what would happen
15 if we had a 50 percent reduction in supplies on the San
16 Francisco PUC's regional water system. And that is what
17 was presented.

18 We have since updated that analysis and we are
19 using the same economist, David Sunding from UC Berkeley.
20 He will be producing a revised analysis. He will be
21 using the same models, but using updated economic
22 information for the Bay Area, including updated demand
23 projections as well as income projections for the Bay
24 Area that will result in a different socioeconomic
25 affect, but using the similar methodology.

1 VICE CHAIR SPIVY-WEBER: When will this be
2 available?

3 MS. LEVIN: It'll be submitted with our
4 comments in March.

5 MR. CARLIN: Thank you.

6 MR. MOORE: Hold on. Thanks, good to see you.
7 Real quick, I was confused on the numbers a little bit,
8 so when you're saying 0.7 percent of --

9 MR. CARLIN: Unimpaired flow to the Delta.

10 MR. MOORE: -- unimpaired flow to the Delta, is
11 that CCSF diversion or is that --

12 MR. CARLIN: 1,000 acre feet.

13 MR. MOORE: -- is that all of the diversions
14 from the Tuolumne River?

15 MR. CARLIN: No, that's just San Francisco's
16 diversions.

17 MR. MOORE: Okay. Okay.

18 MR. CARLIN: So that's in 1,000 acre feet.
19 It's similar to what East Bay Municipal Utility District
20 diverts as well.

21 MR. MOORE: Right, yeah. A similar size
22 service area.

23 MR. CARLIN: Uh-huh.

24 MR. MOORE: Okay. Thanks, good to see you.

25 MR. CARLIN: Good to see you.

1 VICE CHAIR SPIVY-WEBER: Thank you very much.

2 Now we'll go to the one-minute people. And
3 John Herrick is the lead here. This is by his personal
4 request and actually it was recommended by DeeDee as
5 well.

6 MR. HERRICK: That I get one minute?

7 VICE CHAIR SPIVY-WEBER: You get one minute.
8 You go to the front of the line.

9 MR. HERRICK: Thank you very much, John Herrick
10 for the South Delta Water Agency. At the Stockton
11 hearing meeting we put on evidence for you, so I won't go
12 through that except to say that that makes the salinity
13 part of this easy, we think. And that is that the SED's
14 recommendations for salinity changes is based upon a
15 report that uses information that can't be used to
16 calculate leaching fractions. And instead we've
17 presented evidence of harm by local farmers and a report
18 that indicates that salt does and is building up in the
19 soils. So at this point, in my view, it looks like
20 there's no scientific evidence to support a change in the
21 standard. There's evidence to suggest that there's
22 damage that's being done under the current situation.
23 So I'll leave it at that. The last thing I'll
24 say is Mark Holderman's left, but apparently I have to
25 sit down with DWR again and discuss causes and effects.

1 But thank you very much, that's under one minute.

2 VICE CHAIR SPIVY-WEBER: Thank you.

3 MR. MOORE: That's good. I'm glad to hear

4 about the sit down. That will be good.

5 VICE CHAIR SPIVY-WEBER: And say your name --

6 no come up -- say your name and affiliation.

7 MS. WILSON: Oh, I'm Karen Wilson. I've

8 already turned in a card.

9 VICE CHAIR SPIVY-WEBER: Okay. No, that's all

10 right.

11 MS. WILSON: So thank you, I think the first

12 hour was about salinity and I missed it. But I'll listen

13 to the broadcast on that.

14 So two things that I haven't ever heard you

15 mention at these hearings, that one is the fact that the

16 carcasses from fish decaying or being predated upon and

17 the -- you know, what comes out of the animal, becomes a

18 lot of fertility in all of the Valley actually. But it

19 begins usually where the salmonids spawn and die.

20 The other thing is that I appreciate your

21 attention to scientific detail. Oh gosh, but when you're

22 trying to get counts of native fish I would suggest that

23 you use your influence to make every single hatchery fish

24 marked. Thank you.

25 VICE CHAIR SPIVY-WEBER: Thank you.

1 MR. MOORE: Thank you. And we did actually
2 discuss that issue on November 29th. There was -- if you
3 want to look at the video, there's some good testimony
4 about the contributions of salmon carcasses to soil.

5 MS. WILSON: What was the date?

6 MR. MOORE: On November 29th.

7 MS. WILSON: Thank you.

8 MR. MOORE: Yep.

9 MS. DALY: Good afternoon, my name is Barbara
10 Daly and I'm with a group out of Clarksburg in the north
11 Delta, called North Delta C.A.R.E.S. And I have been
12 listening to the different broadcasts and I listened to
13 the one especially from Modesto, where Felicia Marcus,
14 Board Member Marcus, seemed very receptive to asking for
15 solutions and input. So I have a question. If we do
16 have solutions or something to input, how is there a way
17 to engage with you on it and not just share it with you?
18 And I don't know if you can --

19 VICE CHAIR SPIVY-WEBER: No, we can set up an
20 appointment with one of our assistants or through
21 Jeanine.

22 MS. DALY: Through Jeanine?

23 VICE CHAIR SPIVY-WEBER: Look forward to it.

24 MS. DALY: Thank you.

25 VICE CHAIR SPIVY-WEBER: She will refer you to

1 the right person to set it up.

2 MS. DALY: Okay. Perfect.

3 VICE CHAIR SPIVY-WEBER: Thank you.

4 MS. DALY: Thank you very much.

5 VICE CHAIR SPIVY-WEBER: Next?

6 MS. MCLEOD: Hi, I'm Ashley McLeod and I am one
7 in 40 million people who live in California. I'm going
8 to be as fast as possible, because my dad could teach me
9 how to follow the rules.

10 The Delta is in need of help in a couple of
11 ways. There is an intrusion of salt that is happening in
12 the Delta that is affecting the agricultural community
13 and the surrounding communities, as well as the wildlife
14 around and in the Delta is declining. The staff proposal
15 recommends 30 to 50 percent of unimpaired flow with a
16 starting point of 40 percent in the critically dry years.
17 The Water Board staff should know that the SED is in need
18 of revision in salmon population and economical impact
19 alone.

20 I would like to stress that I feel the public
21 is not yet well aware enough to appropriately discuss
22 this topic. I would like to give the public some things
23 to think about on top of the predation and restoration on
24 the river. (Timer beeps.) Oh, I'm sorry. With the
25 chance of 40 percent less water our agriculture in the

1 Central Valley is in trouble. David Sedlak said it best
2 when suggesting four new water tops to our state: Storm
3 water harvesting, water reuse, water conservation and
4 seawater desalination. The public has not yet had an
5 appropriate amount of time to prove out all aspects to
6 say that this Plan will work.

7 There is just not enough water in California
8 currently to say that we can let go of 40 percent of
9 unimpaired flow. Flow is necessary for the health of the
10 river. We just need to bring all the puzzle pieces
11 together for a better life here in California. Currently
12 as we stand, one will win, one will lose, and it's all
13 bad.

14 VICE CHAIR SPIVY-WEBER: Thank you.

15 DR. DOUGHERTY: Hi, my name is Dr. Elizabeth
16 Dougherty. I'm the Director of Wholly H2O. We do
17 education on water conservation and water reuse and I
18 want to thank the Vice Chair and the Board for the
19 opportunity to speak.

20 I just want to mention first of all, that in my
21 household we use 17 gallons a day of water in the winter
22 and 20 gallons a day in the summer. So the suggestion
23 for the SFPUC that their residents would somehow be
24 stressed on 20 gallons a day, I just want to say there's
25 no stress in my house, so it can be done easily:

1 rainwater reuse, gray water reuse. So here we're on this
2 planet for 4.4 billion years, there's been a water cycle
3 that has functioned unbelievably well, right? Same
4 water, same planet, 4.4 billion years, until the last 200
5 years when humans decided that out of the 8.7 million
6 estimated species on this planet, we should take the
7 water for us alone.

8 And I just want to mention that for salmon,
9 which someone here called a cute fish, is a keystone
10 species. And that's a species that other species depend
11 upon. And if they are taken out of the system, the
12 system falls into collapse. So what we're talking about
13 here are not just cute fish or sportsmen or recreational
14 only, but we're talking about the health of the planet in
15 a long-term fashion. Thank you.

16 VICE CHAIR SPIVY-WEBER: Thank you.

17 MS. VAN KURAN: My name is Virginia Van Kuran.
18 Thanks for this opportunity to speak before you. I've
19 already submitted my comment letter and my name is on the
20 petition that you received from Tuolumne River Trust.
21 I'm a resident of Santa Clara County, and I wanted to
22 quote from the resolution in support of improving the
23 Bay-Delta ecosystem that the Santa Clara County Board of
24 Supervisors submitted.

25 Their following principles be applied: A

1 healthy Bay-Delta Estuary, recognize the protection and
2 restoration of a healthy, sustainable Bay-Delta Estuary.
3 It includes improvements in habitat, water quality flows
4 and water supply to support fisheries, wildlife and a
5 resilient ecosystem. Habitat restoration, provide for
6 the restoration of native habitat to protect endangered
7 fish, wildlife and plant species and to improve the
8 ecological functions of the Bay-Delta Estuary as a whole.

9 VICE CHAIR SPIVY-WEBER: Thank you.

10 MS. VAN KURAN: Thank you.

11 VICE CHAIR SPIVY-WEBER: Thank you so much.

12 Now, we'll have five more speakers: Francis
13 Brewster, Chuck Knutson, Todd Sill, Lacey Kiriakou and
14 Jon Rubin.

15 The first one is Francis, hi.

16 MS. BREWSTER: Good afternoon.

17 VICE CHAIR SPIVY-WEBER: Oh two minutes, I'm
18 sorry two minutes, yes.

19 MS. BREWSTER: Two minutes, yes.

20 Good afternoon, my name is Francis Brewster.

21 I'm a Senior Water Resources Specialist with the Santa
22 Clara Valley Water District. We are the primary water
23 resource management agency for Santa Clara County
24 providing water supply, flood protection, and
25 environmental stewardship for Silicon Valley and its 1.9

1 million residents.

2 The District supports the ultimate goal of
3 improving the Bay-Delta ecosystem and water is clearly an
4 important component of that restoration. However, given
5 the stakes involved we urge you to take a more reasoned
6 and balanced approach to addressing ecosystem needs.
7 Santa Clara County relies on water from the Delta
8 Watershed for 55 percent of its water supply on average;
9 40 percent is conveyed through the Delta by the State and
10 Federal water projects. And, 15 percent or 60,000 acre
11 feet per year comes from San Francisco's regional water
12 system. Any reductions in San Francisco's supplies will
13 put significant additional pressure on Santa Clara
14 supplies.

15 Your staff's analysis shows impacts as high as
16 45 percent reduction in supplies to San Francisco's
17 regional system during a repeat of the '87 to '92
18 drought. This level of reduction will have a significant
19 impact in Santa Clara County. Your staff's analysis
20 asserts that there will not be a supply impact, because
21 San Francisco will be able to secure transfer supplies to
22 make up the difference. Based on limited success despite
23 a considerable commitment of resources during the recent
24 drought, San Francisco and Santa Clara will be hard
25 pressed to find the volume of transfer supplies that your

1 staff envisions.

2 In dry years demand exceeds available transfer
3 supplies and sellers face political and environmental
4 pressure to abstain from transferring water outside of
5 their region. In years when transfer supplies were more
6 plentiful, conveyance capacity across the Delta can be
7 limited. In 2016, there was no conveyance capacity for
8 transfers. Conveyance losses were also high, as much as
9 35 percent of purchased water can be lost in transit.

10 The Santa Clara Valley Water District has long
11 been committed to sustained reliable water supplies as
12 well as environmental stewardship. We will continue to
13 encourage the State Board to develop solutions that will
14 meet both of these objectives.

15 VICE CHAIR SPIVY-WEBER: Thank you.

16 Chuck?

17 MR. KNUTSON: I would like to have three
18 minutes if possible?

19 VICE CHAIR SPIVY-WEBER: Really, there are 35
20 people behind you.

21 MR. KNUTSON: Sorry, I didn't know there was
22 that many, okay.

23 VICE CHAIR SPIVY-WEBER: So I would love to
24 give it to you, but I'd then have to give it to everyone
25 else.

1 MR. KNUTSON: Okay.

2 My name's Chuck Knutson and I was a fishery
3 biologist, senior fishery biologist in California for 34
4 years, and I've been retired for the last 10 years. So
5 I'm here representing myself and I thank you for your
6 time.

7 So based on my field experience during the '70s
8 and '80s, and statistical analyses of salmon production
9 and fresh water flows on the San Joaquin, I found a good
10 positive correlation back then between freshwater flows
11 down the tributaries from February through June and
12 returns of adult salmon two-and-a-half years later. The
13 reasons were that higher spring flows increased
14 freshwater habitat for salmon juveniles, prevented lethal
15 high water temperatures from forming in the lower
16 tributaries and main stem, improved the safe passage of
17 juvenile salmon down the tributaries through the Delta
18 and into San Francisco Bay, and increased planktonic food
19 production for salmon in the fresh water-salt water
20 mixing zone of the estuary.

21 Besides salmon, freshwater flows also are
22 highly beneficial to other estuarine species that depend
23 on the estuary for food and reproduction. Examples are
24 Dungeness crab, lowery (phonetic) white and green
25 sturgeon, steelhead, California halibut, sharks and rays,

1 and forage species, such as redbfin shad, Pacific herring
2 and various species of smelt and shrimp. Many fish-
3 eating birds such as kingfishers, herons, grieves, turns,
4 pelicans, sea gulls and mergansers feed on the these
5 forage fish. Adult fish are also important for mammals
6 that depend on them, such as river otters and sea lions.

7 It is critically important that this food web
8 and nursery area be protected and improved with increased
9 freshwater flow as estuaries are one of the most
10 productive ecological systems in the world. So without
11 significant improvements to instream flows, the
12 implementation of non-flow measures while beneficial,
13 will not meet the salmon objectives alone as required by
14 law or protect fish and wildlife beneficial uses.

15 So best available science demonstrates that
16 current flows are insufficient to protect public trust
17 resources and uses within the Basin or the Bay-Delta.

18 (Timer beeps.) Already?

19 VICE CHAIR SPIVY-WEBER: That's what everyone
20 says, sorry.

21 MR. KNUTSON: Well, I'll send you a longer
22 comment letter.

23 VICE CHAIR SPIVY-WEBER: I would love it. That
24 would be great.

25 MR. KNUTSON: All right, I hope you read it,

1 because it gets better.

2 VICE CHAIR SPIVY-WEBER: I will read every word
3 of it, I promise.

4 MR. KNUTSON: Okay. Thank you.

5 VICE CHAIR SPIVY-WEBER: And Barbara Daly, you
6 spoke earlier for the one minute and I don't have a card
7 for Barbara, do you?

8 Okay, come on up, Chuck. Chuck Knutson?

9 MS. TOWNSEND: Oh, yes. You have the card for
10 Barbara, because it's got the piece of paper attached to
11 it.

12 VICE CHAIR SPIVY-WEBER: Oh, Barbara? Okay.
13 I'm sorry, it's a new one. Okay.

14 Okay, so Todd Still? (sic)

15 MR. SILL: When one has so little time to
16 speak, you can't afford to be subtle.

17 MS. TOWNSEND: Can you say your name?

18 MR. SILL: My -- she just -- Todd Sill.

19 VICE CHAIR SPIVY-WEBER: Uh-huh, Todd Sill.

20 MR. SILL: I think -- I don't want to be an
21 opponent of anybody, the fish people or the farmers. But
22 we're operating on two different sets of truth here,
23 because the truth I hear is that this water is going to
24 replace water from the Sacramento River that goes down to
25 the twin tunnels and gets shipped down south. The truth

1 to the fish people is that this water is for the fish, so
2 we're operating on two different sets of truth. So it's
3 really hard for us to negotiate or compromise or settle.

4 I'm not sure which -- I know who I believe,
5 because I witnessed down in Modesto kind of how
6 disingenuous the Board treated Modesto Irrigation
7 District by making them speak at the end of that meeting
8 when they were the host. And they didn't get to speak
9 before a packed crowd, standing room only. So, you know,
10 there's not much time like I said. And I don't want to
11 be the opponents of the fish people, but somebody has
12 forced us to be. So now we're at this standstill.

13 So I guess my only question since I have so
14 little time, faced with the survival of the fish or the
15 survival of your family, your friends in your
16 communities, what would you fight for more and what
17 lengths are you willing to go to? If you answer that
18 question truthfully you will have a better understanding
19 of our mindset. There's no fish in this world that is
20 worth my family, my friends, or my community.

21 VICE CHAIR SPIVY-WEBER: Thank you so much.
22 And I'm not quite sure how the order gets put together,
23 but I am quite sure that the irrigation district was
24 consulted about this, so I will double check. But I
25 think that that particular criticism is probably

1 misplaced. I guess --

2 MS. DODUC: And can I just quickly add that I
3 assure you while they may have presented last, that did
4 not at all diminish the importance and relevance of what
5 they had to say. I thought it was an excellent
6 presentation by the district.

7 MR. SILL: Yeah, but our community didn't get
8 to see how MID stood up.

9 VICE CHAIR SPIVY-WEBER: Okay. That's fair,
10 thank you.

11 Lacey?

12 MS. KIRIAKOU: Good afternoon Board members,
13 I'm Lacey Kiriakou. I'm the Water Resources Coordinator
14 for Merced County. In Merced County we've been working
15 closely with the other water management agencies in our
16 groundwater basin to coordinate and implement the
17 Sustainable Groundwater Management Act. Though Merced
18 County faces undesirable results in five of the six
19 sustainability indicators identified by DWR, such as
20 subsidence, which you heard about from the Merced County
21 presentation at the December 19th hearing; and the
22 lowering of groundwater levels, which our County
23 Superintendent of Schools talked about, we are still
24 committed to managing our high priority critically
25 overdraft Merced Subbasin in a sustainable manor, as

1 required by SGMA. This proposal threatens our path to
2 sustainability by restricting the most significant
3 instrument we have for addressing our groundwater issues
4 and that surface water recharge.

5 It's imperative that before the Water Board
6 makes such a far-reaching policy decision on the SED that
7 you have all of the information about the impacts that
8 taking 40 percent of unimpaired flows will have,
9 especially under SGMA, which will be in effect in the
10 very near future. Without knowing the effects that this
11 proposal will have on groundwater and the economic
12 impacts with SGMA in place, you cannot truly make an
13 informed and balanced decision.

14 Merced, Stanislaus, San Joaquin counties have
15 partnered together on an independent economic analysis of
16 the SED, which looks at both pre- and post-SGMA economic
17 impacts. And we will be sharing the study with you and
18 encourage you to examine the findings, which demonstrate
19 that the economic analysis in the SED severely
20 underestimates the potential regional impacts. And it
21 clearly shows the potential effects both with and without
22 SGMA implementation.

23 Thank you for the opportunity to speak and I
24 hope you take into account the hundreds of comments
25 you've heard over the past several weeks highlighting the

1 concerns and threats that this proposal poses to our
2 communities. And the many studies, reports, and analyses
3 by our counties and irrigation districts on the SED.

4 Thank you.

5 VICE CHAIR SPIVY-WEBER: Thank you. Thank you
6 very much.

7 And Jon, you're on the panel, so do you want to
8 be on a panel or do you just want to speak for two
9 minutes?

10 MR. RUBIN: Either way I am the panel, so I can
11 speak now or --

12 VICE CHAIR SPIVY-WEBER: Two minutes.

13 MR. RUBIN: It would probably be about a little
14 bit longer than that.

15 VICE CHAIR SPIVY-WEBER: Well, then you should
16 be on the panel and Contra Costa is before you, sorry.
17 So Contra Costa, you should be coming up. Maureen
18 Martin. And then Jon be prepared after those comments.

19 Thank you. Go ahead.

20 MS. MARTIN: Wait to get -- oh and now the
21 waiting is done.

22 VICE CHAIR SPIVY-WEBER: Twenty minutes.

23 MS. MARTIN: Good afternoon, Board. Thank you.

24 My name is Maureen Martin. I'm from the Contra Costa

25 Water District and I want to thank you for the

1 opportunity to provide comments on the Phase 1 SED. I
2 also want to thank your staff for a lot of the work that
3 they've done. They've been very responsive to a lot of
4 the requests we've made, so we really appreciate that.
5 So we have four key things to talk about today.

6 The first is our number one concern is Delta
7 water quality throughout the Delta, but specifically at
8 our intakes. And despite what the SED concludes we still
9 remain concerned that there could be water quality
10 degradation in the Delta absent standards violations.
11 And we feel the SED is inadequate, because it did not
12 evaluate the full range of potential Delta water quality
13 changes and Delta operations. And finally CCWD requests
14 that water quality management plans be required for all
15 operational and adaptive management plans that are being
16 developed as part of the Water Quality Control Plan.

17 So a little bit of background about Contra
18 Costa Water District, why we care about Delta water
19 quality. We have four intakes, I hope you can see them.
20 They are the green dots on the map here. The western-
21 most intake is on the western edge of the Delta. That's
22 our Mallard Slough Intake, followed by Rock Slough,
23 moving inward, and we have our Old River Intake and our
24 Middle River Intake. And the purple area shows our
25 service area. We serve just over 500,000 customers. And

1 the red line is your plan area. And you can see that our
2 Middle River intake is right on the plan area and yet an
3 analysis of water quality at our intake was not included
4 in the SED, and so we have concerns about that.

5 But all of our operations in our facilities are
6 based on Delta water quality and when we talk about Delta
7 water quality we're mostly talking about salinity. We
8 have our Los Vaqueros Reservoir that we built originally
9 in the '90s. We expanded it from 108,000 acre feet to
10 160,000 acre feet in 2012. And we are currently
11 evaluating further expansion of it with the regional
12 partners, many of whom you've heard from today including
13 San Francisco, BASCWA, Santa Clara and others, to improve
14 water supply reliability in the area.

15 And so this is a graphic of why and how water
16 quality in the Delta affects Contra Costa Water
17 District's operations and so this is a graphic. The dark
18 line represents salinity throughout the water year at our
19 intakes. It's just a representative salinity, so you
20 start with October over there on the left and then
21 September. And the green -- and the dotted line I should
22 say -- is this water quality threshold.

23 So we operate our Los Vaqueros Reservoir to
24 provide a consistent year-round water quality. So the
25 Delta goes from salty to fresh depending on the

1 freshwater flows and we use this off-stream reservoir to
2 pump water into the reservoir when the Delta is fresh,
3 and release it when it is salty. And so when the
4 salinity is below that threshold, we're able to directly
5 divert to our customers or divert to storage for release
6 later when water quality in the Delta is above that line.

7 And so as water quality salinity in the Delta,
8 you move the salinity above that line, that has a lot of
9 impacts in terms of limiting our opportunities to fill
10 our reservoir and further requiring more releases to be
11 made to maintain that water quality. And so I just want
12 to also just draw your attention to there are quite a few
13 months where right now it's below the line, by the
14 threshold, by just a tiny bit. So even small increases
15 in Delta salinity at our intakes can have a pretty large
16 effect on our operations and the cost of our operations.

17 And so, just like I said, despite what the SED
18 concluded that the water quality in the Delta is going to
19 improve, as a result of all the changes made, we have
20 some concerns. Specifically, that some of the key
21 assumptions in the modeling cannot be implemented as
22 they've been modeled. And so the block of water concept
23 requires perfect foresight, so the 40 percent unimpaired.
24 So the way the modeling works is it's able to look
25 forward for the entire water year and determine if there

1 is enough water in the system and decide, "Oh, I need to
2 shift flows," or things like that. And the model is able
3 to make those decisions with perfect foresight and we all
4 know that that won't really be able to happen.

5 And so the operations that have been modeled --
6 I know we've talked a lot about the carryover storage
7 requirements as well and so I won't go into that -- but
8 really what we've heard about this carryover storage and
9 the flow shifting is that these sort of act like de facto
10 mitigation requirements. So they are in there to offset
11 impacts. And so what we would recommend is that you
12 actually display the range of potential impacts, and then
13 discuss the possible changes in operations that could be
14 employed, and potentially a range of operations, to
15 offset those impacts rather than describing them as
16 adaptive management that isn't required as part of the
17 Plan.

18 And so this graphic over here is from your
19 modeling. This is from the WSE model and this shows the
20 change in Vernalis salinity with and without flow
21 shifting. And so the blue line represents what your
22 conclusions in the SED are based on that, you know, in
23 outside of the February through June window salinities
24 will continue to decrease, because there will be flow
25 shifting available into those months.

1 However, because they're not required and the
2 implementation in their model is based on perfect
3 foresight, we have reason to believe they won't actually
4 be implemented as they've been modeled. And so you can
5 see with outflow shifting salinity at Vernalis will
6 actually increase in several of those months.

7 We also believe that the SED is inadequate,
8 because the baseline does not reflect existing
9 conditions. I recognize that it reflects conditions
10 potentially at the time of the NOP, but those are no
11 longer current conditions. But really importantly it did
12 not evaluate the potential water quality impacts outside
13 of that red line we talked about, the project area. And
14 it really didn't evaluate degradation in water quality
15 beyond compliance with those objectives.

16 And as many people have discussed here, it did
17 not evaluate changes in Delta operations. And not just
18 ours, but the CVP-SWP projects as well. And so all of
19 those combined have a big impact, can affect Delta water
20 quality throughout it. And we believe that deferring the
21 evaluation of those changes in Delta conditions until
22 Phase 2 is not sufficient. So even though I recognize
23 you'll be evaluating the changes to the Plan in phases,
24 the evaluation of the potential impacts need to be
25 considered in the full area, I think for each phase.

1 So we came with solutions as well, not just a
2 list of complaints. In order to rectify some of the
3 inadequacies of the SED we request that the baseline be
4 updated to reflect current conditions, that a full range
5 of potential water operations are analyzed. I know that
6 we've talked a little bit about the with and without the
7 carryover storage, but also with and without flow
8 shifting. That you include an analysis of changes in
9 Delta water quality and operations. And on this point I
10 would like to offer to the staff, we have developed a
11 CalSim model that is integrated -- can be integrated with
12 your WSE model -- so that we have spent a lot of time, so
13 we can make that available.

14 And we will make it available in our comment
15 letter that we'll submit in March. But in terms of being
16 able to facilitate that information, making it into the
17 next version of the SED, we'd be happy to work with your
18 staff to provide that technical assistance in those
19 modeling products. And so with those additional
20 analyses, we hope to see a broader range of potential
21 impacts and describing of its impacts. And, you know,
22 any impacts need to be mitigated rather than balanced
23 away by adaptive management.

24 And lastly, we would like to request that water
25 quality management be a key component of all of the other

1 management activities that are being considered. I know
2 you've heard a lot about fish and other beneficial uses,
3 but sometimes it seem as though the water quality in the
4 Bay-Delta is not receiving as much attention in terms of
5 the development of those management actions when they're
6 being developed. And so we want to ensure that as those
7 plans are being developed, specifically the STMs of that
8 Adaptive Management Plan and the Comprehensive Operations
9 Plan proposed for the State and Federal water projects,
10 also include water quality management plans. And we
11 would like to participate in the development and review
12 of that particular portion of those plans.

13 And we also recognize that a similar type of
14 plan would need to be required in development of Phase 2.
15 So thank you.

16 MR. MOORE: And on that point, I mean -- oh
17 sorry, on the water quality management plan, see that's
18 what basin plans are, you know? And that's kind of what
19 this Water Quality Control Plan is supposed to be. And
20 so I think on that point are you thinking of other
21 examples around the state that you would point to as a
22 model for a water quality management plan that you're
23 looking for or is this something kind of novel?

24 MS. MARTIN: Well, I think that this is the
25 best way we could come up within your adaptive management

1 framework. And so being able to ensure that changes in
2 water quality are properly modeled and evaluated when the
3 other objectives of your Plan are being developed. So
4 absent -- so we could suggest that we have these hard and
5 fast water quality objectives that need to be met. And
6 you do have those. You have the narrative and the
7 numeric objectives.

8 And yet there still can be degradation in the
9 absence of violation of those standards, right? And so
10 what we would like to ensure is that we work with those
11 folks just to know ahead of time potentially what the
12 management of the operations will be. And how they will
13 affect Delta water quality, so that we will be able to
14 provide input. And most of the time I think that they
15 really -- they won't necessarily be in conflict. You
16 know, you can see that the flow shifting is provided for
17 temperature management. And so that decrease in salinity
18 in the modeling and so I don't think that it's
19 necessarily conflict. I think that Delta hydrodynamics
20 and salinity are quite complex.

21 And so actually we showed that we have water
22 quality intakes throughout the Delta. Sometimes an
23 increase in Vernalis flows can be a decrease in water
24 quality, because San Joaquin is a lot saltier than the
25 Sacramento River. So depending on the mix of waters,

1 where you're getting them from, we would expect to see
2 even a degradation under certain conditions with
3 increased flows at Vernalis, depending on the cross
4 channel operation, and the exports.

5 And so we just wanted to -- this was our way of
6 trying to ensure that even if there aren't violations of
7 standards that water quality is still a consideration and
8 the improvement and the maintenance of water quality in
9 the Delta is a priority.

10 VICE CHAIR SPIVY-WEBER: Thank you very much.

11 MS. MARTIN: Thank you.

12 VICE CHAIR SPIVY-WEBER: Now, we'll have ten
13 speakers, again two minutes. Mike Curry, Tim Ruby,
14 Kelsey Linnett, Rick Mazaira --

15 MS. TOWNSEND: Those two people are on a panel.

16 VICE CHAIR SPIVY-WEBER: Rick and --

17 MS. TOWNSEND: Kelsey.

18 VICE CHAIR SPIVY-WEBER: -- Kelsey, okay. So
19 John McManus, Adrian Covert, Rien Doornenbal?

20 MS. TOWNSEND: Adrien Doornenbal is not on the
21 panel.

22 VICE CHAIR SPIVY-WEBER: Okay. Hicham ElTal,

23 MS. TOWNSEND: Hicham already spoke in John
24 Borba's spot.

25 VICE CHAIR SPIVY-WEBER: Okay.

1 MS. TOWNSEND: Which, but John Borba does still
2 want to speak.

3 VICE CHAIR SPIVY-WEBER: Okay. And Rebecca
4 Franklin and Rachel Kaldar, so John Borba will be third
5 from the last.

6 MS. DODUC: And as they are coming up, if I
7 might say something to clarify, because I see Ms. Daly is
8 still in the room and I wanted to make sure she hears
9 this before she leaves. North Delta C.A.R.E.S. is a
10 party in the WaterFix hearings and so Ms. Daly is well
11 aware of the ex parte prohibition associated with that.

12 So when the Vice Chair invited you to come in
13 and meet with us to discuss solutions for this
14 proceeding, it's with the caveat that the solution does
15 not involve the WaterFix or the tunnels, because we still
16 cannot discuss that, all right? Thank you.

17 VICE CHAIR SPIVY-WEBER: Thank you, very much.

18 Okay. Mike Curry, followed by Tim Ruby,
19 followed by John McManus.

20 MR. CURRY: Good afternoon, my name is Mike
21 Curry and I'm employed at Johnson Farms in Denair.
22 Johnson Farms is a family-owned and operated almond farm
23 and huller-sheller that's been operating, or farming, in
24 our local community for well over 100 years. We are
25 extremely concerned with the revised SED and its proposed

1 unimpaired flow and carryover requirements. As you know,
2 California produces 50 percent of the U.S. fruits, nuts
3 and vegetables, much of which are grown from the Central
4 Valley.

5 Your Board's proposal will not only severely
6 impact our local region and its communities, it will have
7 far reaching impacts on families across the country. In
8 the U.S. less than 10 percent of a family's income is
9 spent on food, compared to some developing countries
10 where 75 percent of a family's income is used for food.
11 This Plan, as proposed, will shift food production to
12 other regions of the world, greatly reducing job
13 opportunities in our area, collapse our communities, and
14 increase food prices throughout the U.S.

15 Equally concerning is the SED doesn't account
16 for the damaging effects it will have on groundwater
17 quality and sustainability. If implemented, the SED be
18 the direct cause of groundwater reduction in our
19 communities.

20 Currently, we employ 18 full-time team members
21 and during harvest we employ 40 more additional people,
22 many of whom return year after year. We provide
23 financial support to scholarship funds and youth
24 organizations targeting disadvantaged children. We are
25 stewards of the land and we believe in a strong, viable

1 and balanced ecosystem. We are incredibly resourceful
2 and are continuously innovating new ways to conserve our
3 resources.

4 However, if the SED is implemented as currently
5 proposed we estimate a minimum of 750 acres of our land
6 will have to be fallowed as a direct result of
7 groundwater depletion. We will be forced to lay off
8 long-time employees, who we consider family. And future
9 generations of the Johnson family will not be able to
10 continue its heritage of farming and supporting its
11 community as it has done for so many years.

12 And finally we urge the Board and its staff to
13 abandon the proposed SED and begin meaningful dialogue
14 with the mindset of reaching balanced solutions to
15 preserve the vital resources our communities are so
16 dependent upon. Thank you.

17 VICE CHAIR SPIVY-WEBER: Thank you so much.

18 Tim Ruby followed by John McManus -- go ahead
19 and line up, it's faster -- Rien Doornebal. Go ahead.

20 MR. RUBY: Thank you for the opportunity to
21 comment today, I'm Tim Ruby from Del Monte --

22 VICE CHAIR SPIVY-WEBER: Oh, can you get the
23 mic closer so that we can --

24 MR. RUBY: Okay. I'm Tim Ruby from Del Monte
25 Foods, Incorporated. And I'm the Corporate Environmental

1 Water Manager and I'm a soil scientist. And I've worked
2 at Del Monte for 16 years. And we're -- Del Monte is
3 very concerned about both the Phase 1 and Phase 2
4 projects for the Bay-Delta Plan.

5 Del Monte has packed fruits and vegetables in
6 California for 125 years. And our continued operations
7 for another 125 years depends on reliable sources of both
8 surface and groundwater. Del Monte operates a tomato
9 processing facility in Hanford and a fruit packing
10 facility in Modesto. Our two California factories are
11 business critical and employ 3,500 employees during the
12 summer packing season months. The facilities are
13 responsible for approximately 14,000 contracted acres of
14 local farmland and approximately 550,000 raw tons of
15 fruits and tomatoes annually.

16 Del Monte fully concurs with the underlying
17 purpose and goals for the new flow objectives, and
18 applauds the Water Board's efforts to formulate a very
19 complex adaptive management approach for maintaining and
20 improving salmon and steelhead populations in the Lower
21 San Joaquin River and its tributaries.

22 Del Monte is very concerned that the Lower San
23 Joaquin River Alternative 3 may be too aggressive. In
24 particular, we are very concerned that this level of
25 protection may not measurably improve fish populations

1 over the less aggressive Alternative 2. And would be
2 much too impactful in negative way on the region's
3 fragile farm economy, and already strained groundwater
4 resources. Del Monte projects that implementation of
5 Alternative 3 will measurably impact its ability to
6 continue to source, harvest locally grown tomatoes and
7 fruits, shorten its seasonal factory packing days causing
8 job losses, and increase fixed production costs at both
9 of our California plants.

10 Del Monte projects that 53,000 growers, 2,200
11 acres and 73,000 raw tons of fruits and tomatoes, with a
12 current value of \$18 million historically grown within
13 the basin will be in jeopardy if Alternative 3 were fully
14 and aggressively implemented by the Water Board, as
15 stipulated in the SED.

16 VICE CHAIR SPIVY-WEBER: Thank you very much.
17 Thank you.

18 MR. RUBY: We do urge you to go back and look
19 at Alternative 2. We think there could be some tweaking
20 with Alternative 2 that will cause less of an impact on
21 our local economy and our business directly. We think
22 there are some opportunities to look at there --

23 VICE CHAIR SPIVY-WEBER: John McManus is next.
24 I'm sorry, thank you, sir.

25 He left. Rien Doornenbal.

1 MR. DOORNENBAL: My name is Rien Doornenbal.
2 My wife Lieske and I farm northwest of Escalon. We farm
3 in the South San Joaquin Irrigation District.

4 I was pleased to hear that the Board recognizes
5 that predation is a problem, but the solution suggested
6 to increase flow to somehow move predatory fish out of
7 the way to become less of a threat to the native species
8 sounds to me rather fishy. The irrigation districts have
9 suggested reducing the number and size of predatory non-
10 native fish by increasing sport fishing pressure -- the
11 suggestion so far has been ignored by all of the other
12 stakeholders. We feel that this is disingenuous. This
13 is an issue that makes us wonder if the other
14 stakeholders are acting in good faith.

15 I'd like to address another elephant in the
16 room and that is water rights. South San Joaquin
17 Irrigation District and Oakdale Irrigation District share
18 water rights. These water rights allow these two
19 irrigation districts to divert water that is the result
20 of snowmelt from a specific geographical area in the
21 Sierras. MID and TID have similar water rights. These
22 are senior, adjudicated, and pre-1914 water rights.

23 Are there problems in the Delta? Certainly, we
24 could spend all day speculating how they came about. But
25 let's not forget that there have been many changes.

1 (Timer beeps.) I have 40 more words. There have been
2 many changes in the state's water system that affect the
3 Delta, that came after SSJID, OID, MID and TID started
4 diverting. We feel the Board is trying to put the whole
5 problem on our backs.

6 I cannot predict how the water rights issue
7 will play out. But I will predict, with 100 percent
8 certainty, that those of us with senior, adjudicated,
9 pre-1914 water rights will go to the mat to protect what
10 we have.

11 VICE CHAIR SPIVY-WEBER: Thank you very much.

12 John? John Borba, followed by Rebecca
13 Franklin, followed by Rachel Kaldor, and then the long-
14 awaited Jon Rubin.

15 MR. BORBA: I'm John Borba, grower and
16 cattleman. I've used Merced River water for 66 years.

17 The Merced River flow, an average of 1,000,000
18 acre-feet per year. MID diverts 550,000 acre-feet of
19 which 300,000 is sold to its growers for use on 100,000
20 acres; 250,000 is consumed by people with riparian
21 rights, system distribution seepage, and evaporative
22 loss; 450,000 acre-feet continue down the river to the
23 Delta for fish and wildlife and other uses thereof.

24 The water is first accumulated in our
25 watershed, then contained in our Lake McClure behind

1 Exchequer Dam, then distributed in coordination with
2 government officials with rules and regulations thereof.
3 Our containment and river rights are pre-1914 in
4 accordance with the law of the land. You are presently
5 on average receiving nearly half of the Merced River flow
6 and when you want it, plus the bottom 115,000 acre feet
7 of McClure belongs to you and we deliver 15-second feet
8 to the Merced Wildlife Refuge.

9 MID constructed and paid for Exchequer Dam
10 containment. If Exchequer Dam were constructed today,
11 the cost would be one and a quarter billion dollars.
12 Merced Irrigation, I mean MID irrigating 100,000 acres
13 also influences with underground recharge, another
14 400,000 acres totaling one-half million acres with a crop
15 value of three-quarters of a billion dollars and with a
16 land, equipment and capital improvement value of \$10
17 billion.

18 We have built these improvements,
19 infrastructure and inputs for over 100 years. We have
20 had a cattle ranch for 80 years, which is also a private
21 fish and wildlife preserve with no fishing or hunting
22 allowed. The large creek within depends -- (Timer
23 beeps.) -- I've got eight sentences. The large creek
24 within depends on small amounts of MID flow change over
25 flows. During the drought, this creek dried

1 intermittently and we lost fish. If increased Merced
2 River flows were required we are concerned that would
3 occur more often.

4 Merced River has the least reliable and the
5 lowest yielding watershed of all major rivers north. We
6 also deliver the highest concentration of salt, 700 parts
7 per million, after entering the San Joaquin. Merced
8 River flow requirements have been maximized and balanced
9 considering all aspects of this project, but we are
10 interested and want to do our part to enhance the life of
11 the fish with the MID, Merced River SAFE Plan.

12 VICE CHAIR SPIVY-WEBER: Thank you.

13 MR. BORBA: Thank you.

14 VICE CHAIR SPIVY-WEBER: Rebecca followed by
15 Rachel.

16 And then Jon, you can come and sit up here all
17 ready.

18 MS. FRANKLIN: Good afternoon Vice Chair and
19 members of the Board, my name's Rebecca Franklin, with
20 the Association of California Water Agencies. ACWA
21 represents more than 430 public water agency members that
22 collectively supply 90 percent of the water that's
23 delivered for agricultural, industrial, and municipal
24 uses statewide. Our membership includes a number of
25 irrigation districts and water districts that you've

1 heard from throughout this public hearing process.

2 We appreciate the hearing process you've held
3 as well as the recent 60-day extension that you granted
4 on the written comment period. We want to underscore all
5 of the comments you've received regarding the need for a
6 more open, transparent, collaborative approach to
7 developing this Water Quality Control Plan. The Water
8 Quality Control Plan must be developed in a manner that's
9 consistent with the direction outlined in the California
10 Water Action Plan and established state policies,
11 including the Delta Reform Act, the Sustainable
12 Groundwater Management Act, and the Human Right to Water
13 Act.

14 The current unimpaired flows approach will not
15 help the state achieve its policy objectives and will
16 actually undermine established state policies by
17 increasing groundwater overdraft, making investments in
18 storage projects irrelevant, and negatively impacting
19 disadvantaged communities as you've heard about a lot.
20 The current proposal will also have a devastating impact
21 on California's economy and the disadvantaged communities
22 that comprise 40 percent of the area affected by this
23 Plan. This is an unacceptable outcome for a Water
24 Quality Control Planning process, the objective of which
25 is to balance out all establish beneficial uses of water.

1 Considering these negative outcomes, the best available
2 science must support the unimpaired flows approach as the
3 only approach that will achieve desired ecological
4 outcomes.

5 The 2012 Delta Independent Science Board peer
6 review of this approach states that flow is but one of
7 many stressors affecting fish and wildlife. And the
8 choice of flow criterion metrics needs to serve the
9 broader needs of ecosystems as well as individual
10 species. Given the altered hydrodynamics of the Bay-
11 Delta ecosystem simply adding water to the system will
12 not achieve desired ecological outcomes. Flows must be
13 applied in a manner that's functional to available
14 physical habitat and timed appropriately for aquatic
15 species life cycles.

16 The Coop identifies the need for an integrative
17 multi-pronged approach to determining ecological flow
18 needs. ACWA's member agencies have demonstrated their
19 interest in such an approach and have the technical
20 ability to help inform the process if they're included.
21 Just one more thing, ACWA encourages the State Water
22 Board to continue to work with the Natural Resources
23 Agency on negotiating voluntary settlements and to engage
24 stakeholders in an open, transparent, collaborative
25 process that incorporates the best available science as

1 this process moves forward. Thank you.

2 VICE CHAIR SPIVY-WEBER: Thank you.

3 Rachel?

4 MS. KALDOR: My name is Rachel Kaldor. I'm the
5 Executive Director of Dairy Institute of California.
6 Dairy Institute is a statewide trade association
7 representing the manufacturers of milk, cheese, cultured
8 dairy products and frozen dairy products. We are
9 absolutely supportive of the work of this Board, the
10 staff, and allied experts to sustain and improve water
11 quality and the ecosystem. I'm here to testify in
12 support of a balanced approach, one which benefits the
13 Tuolumne River, related water systems, and all that
14 depend on them.

15 Our members rely on dairy farms to supply milk
16 to Central Valley dairy processing plants that then go on
17 to serve a global market. Dairy farms and processing
18 plants are the source of thousands of year-round well-
19 paying jobs in Central Valley communities, most of which
20 would suffer significantly higher unemployment and loss
21 of tax and business revenue if these operations were
22 forced to leave.

23 Looking to the future, as our farms and plants
24 modernize, employees with these year-round jobs also gain
25 employment education and training. These opportunities

1 drive their futures and the well-being of they and their
2 families. They also foster the innovation vital to our
3 affiliated industries and that innovation keeps our farms
4 and processing plants in operation.

5 We urge the Board to implement science-based
6 options such as non-flow measures that would help the
7 salmon population and increase the health and operation
8 of the river. We would also urge the Board to consider
9 carefully the impact of unimpaired flows on the state's
10 and regions' critical need for groundwater management and
11 recharge.

12 Viable solutions are those that achieve the
13 balance to sustain both our treasured resources and our
14 citizens. I appreciate the opportunity to testify before
15 you today. Thank you.

16 VICE CHAIR SPIVY-WEBER: Thank you.

17 Jon?

18 MR. RUBIN: Yes, thank you. My name is Jon
19 Rubin. I'm General Counsel for the San Luis & Delta-
20 Mendota Water Authority. Madam Vice Chair, members of
21 the Board, staff, it's a pleasure to speak to you and I
22 will be brief.

23 I have two general comments. Let me first
24 start with the Delta Independent Science Board. The
25 Independent Science Board was created as a result of the

1 2009 Delta Reform Act, as you're aware. And it's in
2 existence to provide oversight on scientific research,
3 monitoring and assessment programs. And its objective is
4 to strengthen the science underlying Bay-Delta programs
5 and the application of that science within the Bay-Delta.

6 The Independent Science Board, as you may be
7 aware, is reviewing and preparing comments on a draft
8 Scientific Report that your staff has prepared for Phase
9 2 of the Water Quality Control Plan. My understanding is
10 that the Independent Science Board that has released the
11 draft of those comments is intending to finalize them on
12 January 12th.

13 The draft comments that were released in
14 December present some fairly fundamental questions with
15 regard to the Phase 2 draft Scientific Report. And I do
16 want to highlight three here today.

17 First, the Independent Science Board, in its
18 draft comments, questioned why the State Water Board's
19 draft Scientific Report only considers an unimpaired flow
20 approach to setting flow regulation. They question the
21 lack of quantitative treatment of any effects from non-
22 flow stressors and questioned the limited description of
23 possible methods for reducing effects of non-flow
24 stressors. The Water Authority raised these questions,
25 or noted these questions in its comments on the Phase 2

1 draft Scientific Report. And I note them today, because
2 I believe these three questions -- and there's others
3 that they raise -- are directly applicable in this Phase
4 1 process.

5 The questions that the Independent Science
6 Board has raised with regard to the draft Scientific
7 Report for Phase 2 are questions that were raised in this
8 Phase 1, when the draft Scientific Report underlying the
9 documents that are before you today, were released for
10 public comment. I do want to emphasize the first
11 question that the Delta Independent Science Board has
12 raised -- the failure to consider approaches other than
13 an unimpaired flow approach. To me this is a large and
14 very problematic failure that exists in Phase 2, but it
15 again is a problem and a failure in Phase 1.

16 And you've heard and you've seen the results of
17 the focus on unimpaired flow today, I'm sure at the other
18 hearings that you've attended. By focusing on unimpaired
19 flow you set a paradigm that's -- the question that's
20 before you is how much water for fish versus how much
21 water for people? This is a paradigm that has been
22 employed for the past quarter century by the State Water
23 Board. And it's a paradigm that's failed to provide the
24 desired protection for beneficial uses.

25 It places the State Board in an untenable

1 position of choosing winners and losers. And it also
2 places you in a position, if the desired results are not
3 realized, for pushing for more water for fish at the
4 expense of people. Science, policy and law support
5 consideration of alternative approaches. Alternative
6 approaches that may avoid the State Board being placed in
7 the difficult circumstances I just noted.

8 Alternatives that could be presented to you,
9 but haven't yet are approaches that you've heard today
10 from other speakers, like an approach that's based on
11 functional flows. Other approaches are based on
12 regression or statistical analyses. By following an
13 alternative approach solutions focus on the needs of fish
14 and the needs for people. It allows solutions that do
15 not necessarily sacrifice one for the other. It allows
16 solutions that do not place the heavy burden of flow, the
17 burden that exists when you rely upon flow as a master
18 variable. It allows solutions that consider flow, a call
19 on non-flow measures to mitigate for non-flow impacts
20 that have occurred within the system.

21 The second comment I want to raise is again a
22 comment that was raised earlier today. And it concerns
23 the conflation of authority. That the Phase 1 documents
24 that are before you today conflate authority that you
25 have under your water quality planning versus your water

1 right planning. And because of the conflation of your
2 authorities, if you adopt the update as proposed, you
3 will be violating the law.

4 The example I provide to you today concerns the
5 Program of Implementation for southern Delta salinity
6 objectives. Under the law, the Water Quality Control
7 Plan and its Program of Implementation are not to assign
8 responsibility for achieving objectives. The proposed
9 updates and the Program of Implementation do just that.

10 As examples, the Program of Implementation
11 assigns to the Bureau of Reclamation requirements to meet
12 south Delta salinity as a condition of its water rights.
13 And that's on page 42 of the Program of Implementation.
14 Page 43 has a similar statement obligating DWR and
15 Reclamation to meet salinity requirements, as condition
16 of their water rights. And page 45 has a condition on
17 DWR and Reclamation's water rights with regard to
18 operation of agricultural barriers.

19 So let me close by highlighting the three --
20 the concerns that I've raised today. You have concerns
21 raised by the ISB in Phase 2 that are equally applicable
22 to this Phase 1 and need to be addressed and more
23 specifically, the failure to consider a regulatory
24 approach other than an unimpaired flow approach. And you
25 have the documents before you that conflate authority,

1 your water quality and water right authority.

2 These are significant concerns. Their
3 significance however, is amplified by the fact that
4 you're updating your Phase -- you're conducting your
5 Phase 1 update within a very complicated regulatory
6 environment. An environment with multiple other
7 regulatory processes underway, all of which are focused
8 on similar resources, and all of which have similar
9 goals.

10 What the Water Authority recommends is that the
11 State Water Board expand the analysis that's before you
12 to address the concerns that I've highlighted. And to
13 develop the Phase 1 documents to support or complement a
14 unified institutional structure. That the State Board
15 develop the Phase 1 documents to help bring a sense of
16 order and singular purpose to the many processes that now
17 exist within the Bay-Delta. Thank you.

18 VICE CHAIR SPIVY-WEBER: Thank you. Any
19 questions? Thank you very much.

20 I have 10 more speakers, Michael Warburton will
21 be first. Michael, could you come right up right now?
22 Deanna Wulff, Mark Chow, Paul Gardner, Leah Rogers, Carol
23 Fitzgerald, Bart Westcott, Gail -- Gail, you'll tell me
24 how to do it -- Charlotte Allen and Crystal Sanders.

25 Thank you. Michael?

1 MR. WARBURTON: Yeah. I'm Michael Warburton.
2 I'm Executive Director of the Public Trust Alliance.
3 It's a non-profit, which represents public interests in
4 California's waters, which you devote a great deal of
5 attention to.

6 My brain is fried. I haven't understood a lot
7 of what's been said and, you know, some people said, "We
8 own it." And the thing is that things don't have value.
9 People give it value. And when you have different
10 people, they put different values on things. And so a
11 lot of this is totally predictable differences in
12 perception. People talked about different truths. And
13 the scientific evaluation has to include an institutional
14 analysis of where the uncertainties are coming from,
15 because both camps of people and fish are claiming that
16 their truth is the truth. And the thing is that both are
17 the truths.

18 And with that kind of thing when you have
19 voluntary settlements, some things get traded away. And
20 I think the process should be transparent enough, so that
21 people can understand what's being traded away by whom
22 and who disagrees with who. So I'm just saying at the
23 end of a day like today, I'm blitzed.

24 And I haven't gotten any further, but I hope
25 you have.

1 VICE CHAIR SPIVY-WEBER: Thank you. I hope we
2 have too.

3 Deanna. Deanna Wulff? Mark Chow? Paul
4 Gardner?

5 MR. GARDNER: Thanks for the opportunity. I'm
6 a small business man. I'm a salvage contractor in
7 Silicon Valley and I'm here today, because I'm concerned
8 about the river though, and its inhabitants. And as a
9 way of expressing myself I wrote this following little
10 story, which I hope you'll let me read.

11 The human walked into the Court of the
12 Honorable Ronald E. Salmon. "Why are you here?" the
13 Judge asked. "We petition the Court to take a major
14 portion of the water of the Sacramento-San Joaquin River
15 Delta," the human answered. "What right do you request
16 this?" "Well, we need it and we are more intelligent and
17 more sophisticated than other species." "More
18 sophisticated?" "Yes. We have advanced technology and
19 communication and transportation and war. We have been
20 to the moon."

21 The Judge probed. "Has your technology
22 benefited the earth and all its inhabitants?" "Well,"
23 said the human, "Many species have gone extinct and
24 there's been some environmental destruction." "Some?"
25 snapped the Judge. "It seems to me there's been a lot of

1 environmental destruction. Have you at least benefited
2 all humans with your technology?" asked the Judge. "Uh,
3 no. Not exactly. There are many humans that have
4 suffered. We could be doing a far better job with food,
5 health care, energy and more. That's for sure."

6 "My fine scaled friends have not harmed
7 anyone," the Judge said. "They benefit many other
8 species, both plant and animal kingdoms along the way.
9 In fact, they provide many jobs to those of your species.
10 How will the taking of this water affect my fine finned
11 brothers?" the Judge asked? "Well," said the human, "It
12 depends on how much water we take. (Timer beeps.) Many,
13 perhaps all of you will die. That's just the way it is,"
14 replied the human.

15 "And you think this might help?" the Judge
16 asked. "Well," said the human, "We have a lot of humans
17 to feed." "As there is no other way?" asked the Judge.
18 "Well," said the human, "This is the easiest way. We
19 haven't necessarily explored all the other options."

20 "You seem to be a very arrogant species,"
21 declared the Judge. "Wouldn't methods exploring all the
22 other conservation measures before taking such a drastic
23 step? I deny your petition. Don't come back 'till you
24 have explored all the options and ensured the lives of
25 all species and the health of our precious Mother Earth."

1 Thanks for your time.

2 VICE CHAIR SPIVY-WEBER: Thank you.

3 Leah.

4 MS. SREDANOVIC: Hi. Thanks for your patience.

5 I'm Gail Sredanovic. I am a member of San Mateo County
6 Democracy for America and Chair of the Social and
7 Economic Justice Task Force. I led them in a study of
8 water issues and we were surprised to learn that there
9 are five times as many water rights as there ever has
10 been water in the State of California. And to learn that
11 salmon habitat is water, plain and simple, that salmon
12 flows coincide with water flows.

13 The club has taken a position against the twin
14 tunnels and the County of San Mateo, the County Board has
15 passed a resolution reminding everybody that the State
16 Water Resources Board determined in 2010, that to protect
17 the public trust resources in the Sacramento-San Joaquin
18 Bay-Delta ecosystem, 75 percent of unimpaired runoff from
19 the Sacramento-San Joaquin Watershed should flow out of
20 the Delta. Also, in their resolution, they noted the
21 need for regional self-sufficiency to reduce reliance on
22 exports from the Delta. And they also noted that
23 protecting the economic viability of industry and other
24 businesses in the Bay Area was needed. And that part of
25 this is protecting the shoreline of the greater San

1 Francisco Bay-Delta ecosystem.

2 I would also note since I live in Menlo Park,
3 that in East Menlo Park where we have Facebook and tons
4 of jobs, that the low-income residents are being driven
5 out by rising rental costs. And if similar processes go
6 on in East Palo Alto, the City Council may get money and
7 the developers may get money, but similar processes will
8 drive out the disadvantaged community. And I'm very
9 concerned about this. I would urge you not to be overly
10 persuaded by this particular sub-argument.

11 Thank you for your time and patience.

12 VICE CHAIR SPIVY-WEBER: Thank you. Leah
13 Rogers, is Leah here? No. Carol Fitzgerald? Bart
14 Westcott? Charlotte Allen? Oh good.

15 MS. ALLEN: I'm here, you finally got someone.

16 (Brief colloquy aside.)

17 MS. ALLEN: I'm Charlotte Allen. I'm the Co-
18 Chair of the State Sierra Club Water Committee. I'm not
19 here to speak for the Sierra Club, because I'm not
20 advocating for anything. I just thought I'd do a little
21 fact-checking on the claims of economic disaster that
22 you've been hearing. I'm speaking to this little one-
23 page chart that I've left you copies of. And I thought
24 what would be useful instead of talking about modeling
25 was just to look at two years in similar points on the

1 economic cycle. And I picked 2006 and 2014, both of them
2 about six years out from major economic collapses. The
3 2008 one being a more major collapse.

4 The difference between these two years is that
5 SFPUC water deliveries were 25 percent lower in 2014. So
6 we're going to see the impact of a 25 percent reduction
7 in water deliveries. Unemployment however, was down 15
8 percent in 2014 as compared to 2006. The NASDAQ, which
9 is kind of a rough indicator of Bay Area economy was up
10 75 percent between 2006 and 2014. And the median home
11 value, which is probably a better local indicator of the
12 economy for the San Francisco Metro area, was up 10
13 percent between 2006 and 2014.

14 So if I was kind of a radical I might say that
15 the 25 percent decrease in water deliveries had a
16 positive impact on the Bay Area economy. But I'm not
17 going to say that. I'll just say it has no discernible
18 impact on the Bay Area economy. I would urge you to look
19 with skepticism on the claims of economic impact and look
20 at history. A similar history might enlighten us about
21 the Central Valley. The 20th Congressional District in
22 the San Joaquin Valley has been crushingly poor since the
23 1940s in years of plentiful water and no water.

24 So take the claims of economic disaster with a
25 grain of salt and a dose of history.

1 VICE CHAIR SPIVY-WEBER: Thank you so much.
2 And finally Crystal Sanders. And then the last
3 panel, the joint presentation on recreational interest,
4 if you all could come up and have a seat up here that
5 would be great. Thank you.

6 Go ahead, Crystal.

7 MS. SANDERS: Hi. I'm Crystal Sanders. I live
8 in San Francisco. I'm a fisheries biologist, Founder of
9 Fish Revolution and on the Board of SalmonAid. Fish
10 Revolution works with chefs, restaurants, and other
11 businesses in the greater Bay Area to implement
12 sustainable seafood sourcing practices and to transform
13 their seafood purchasing practices to ensure healthy
14 oceans and business success.

15 Wild salmon is not only an iconic California
16 species, it is key ingredient on my clients' menus. And
17 salmon is one of the most recognized and desired fishes
18 that they offer. And wild salmon is really the only
19 sustainable options for these businesses to choose. The
20 problem is that local wild Chinook salmon is so hard to
21 get, and the price is too high, and availability is too
22 uncertain for many restaurants and businesses to rely on
23 it for their menus. This is harmful to both their
24 businesses and their sustainability goals.

25 Restoring the San Joaquin River and her

1 tributaries could lead to tens of thousands more salmon
2 in the ocean every year -- even more if we go up towards
3 the 60 percent recommendation. This would make supply of
4 salmon more reliable, less expensive, and while keeping
5 these economic benefits of salmon sales in our local
6 area. In most years, the San Joaquin has less than 30
7 percent of its natural flow. The Water Board's current
8 proposal to increase that to only 40 percent is
9 inadequate. The best science tells us that it's too low
10 to support reliable salmon productivity in this valley.

11 Please protect our wild salmon fishery, the
12 restaurant and fish-related businesses like mine that
13 rely on wild salmon by following the science to restore
14 at least half of the flow to the tributaries to the San
15 Joaquin. Thank you.

16 VICE CHAIR SPIVY-WEBER: Thank you so much.

17 And who is leading the panel?

18 MR. MAZAIRA: I'm not sure we have a leader.

19 VICE CHAIR SPIVY-WEBER: Well, who starts the
20 panel then?

21 MS. D'ADAMO: I would say just go down the row.

22 VICE CHAIR SPIVY-WEBER: Okay. Start with Kate
23 -- Kelsey.

24 MS. LINNETT: Thank you. Good afternoon, Vice
25 Chair and members of the Board.

1 (Colloquy re: audio setup.)

2 VICE CHAIR SPIVY-WEBER: No, and introduce

3 yourself.

4 MS. LINNETT: Thank you, turned on the mic.

5 My name is Kelsey Linnett. Good afternoon Vice

6 Chair, members of the Board. I live and work in San

7 Francisco and I recently discovered that I love sport

8 fishing. My first time was last spring. I was enamored

9 and not just because I was dating the captain of the

10 boat. (Laughter.) Before I met him, I had no idea that

11 someone like me could go out fishing. I wrongly assumed

12 that the world was relegated to a few old geezers and

13 some hunting enthusiasts. I thought you had to have been

14 taught by your father or come armed with a set of fishing

15 poles and a well-stocked tackle box.

16 Then I stepped on to the boat, a 50-foot sport

17 fishing vessel called the "New Easy Rider." During

18 salmon season it leaves the dock in Berkeley nearly every

19 day at 6:00 a.m. sharp. If you don't have your own rod,

20 you can rent one. There's room for up to 25 people, each

21 with a spot along the edge of the boat.

22 The first stop is the bait dock where they sell

23 live anchovies. A few silvery scoops into a couple of

24 buckets and we're off through the Bay, under the Golden

25 Gate Bridge, around Point Bonita and into the ocean.

1 That's when you get to fish.

2 You fish for salmon with a trolling method,
3 which means mimicking a school of anchovies to attract
4 the salmon to bite. You drop the line with a small
5 weight attached to a sink release, trailed by leader line
6 and a hook threaded expertly through the anchovy, so that
7 it spins in the water. The boat slows down to a crawl
8 and you wait for the fish to bite. The fish don't
9 discriminate. They bite for newbies and veterans alike
10 and some days they don't bite your line at all.

11 When you get a bite you yell "fish on" and then
12 the deck hands help you weave over and under the other
13 rods as you slowly reel it in towards the boat. You
14 follow the fish sometimes all the way around the boat
15 before it gets close enough to get a net and haul it onto
16 the deck. It is exhilarating. Your adrenalin is going.
17 Your forearms start to give if you're fighting too hard,
18 and you are singularly focused on that fish at the other
19 end of the line. If you pull too hard the fish will
20 break the line. And if you're too soft, then the fish
21 can wiggle free from the hook. And this adventure
22 continues for a full day. Sometimes up to 12 hours.

23 In the course of managing your rod, you might
24 be lucky enough to see whales and sometimes a shark. You
25 hope not to see a sea lion, because they will steal your

1 salmon once you've hooked it. When you catch a salmon it
2 is the most beautiful creature. And it is so, so
3 delicious. You learn to eat the whole fish and share
4 what you're not going to eat. And let me tell you, that
5 everybody likes getting some fresh salmon.

6 Some additional points about the activity.
7 It's very inclusive. All generations from kids to
8 retirees can participate. All abilities and expertise
9 are welcome. I went on a fishing trip with two people
10 who were blind. It's very multi-cultural. Fishing is
11 universal. And it fosters connections. When you're on a
12 boat all day fishing together, you talk to people. You
13 trade stories and you learn. You experience the ocean
14 firsthand and the fishery. And you form a deeper
15 connection to nature and your food source.

16 It's also a way to mark occasions. I've seen
17 people come on the boat to celebrate birthdays, to bond
18 with their work colleagues. And there's an annual
19 memorial charter to recognize all the people that have
20 passed.

21 It's a destination and it's stimulates the
22 economy. It allows commercial fishermen like my
23 boyfriend to diversify what his boat does beyond
24 commercial crabbing and support his two kids. People
25 travel from all over to come out sport fishing. They

1 stay in hotel rooms, they purchase food, they buy their
2 fishing licenses. And it supports the entire
3 infrastructure from the Berkeley Marina to the fuel dock
4 to the bait dock. In short, if sport fishing were no
5 longer viable it would be an irreplaceable loss to the
6 community and the state.

7 The fishermen all know, because they've lived
8 it, that the salmon population has dramatically decreased
9 to the point of scarcity. It used to be that in the
10 ocean, outside the Golden Gate the salmon would be where
11 the feed were. And now it's spotty. As a result, the
12 fleet watch each other closely and if one boat lands a
13 fish they all race to get to that same spot just like
14 kids fighting over the last cookie.

15 The State Water Resource Control Board has this
16 once in a generation opportunity to restore the salmon
17 fishery, so that more avid fishermen can catch a fish or
18 two, which is the limit. In my opinion, it's not a
19 question of fish versus farm. It's about stewardship and
20 inclusion. Access for everybody to have the opportunity
21 to catch a fish is not too much to ask.

22 I am in support of increased flow at the
23 maximum levels in the Phase 1 proposal, because that is
24 the minimum flow necessary to restore the salmon
25 population. You have that power and it's the right thing

1 to do. Thank you.

2 MR. MAZAIRA: Madam Vice Chair, Board, thank
3 you for the opportunity to speak to you and thank you
4 very much for the openness that you have in hearing our
5 comments during this comment period.

6 My name is Rick Mazaira. I am the owner and
7 operator of Yosemite Outfitters Guide Service at the
8 headwaters of the Merced and the headwaters of the
9 Tuolumne. I have a permit standing in the Stanislaus
10 National Forest, so I also guide there. And I'm very
11 familiar with these waters and it was good to hear that
12 you went for a walk through those rivers.

13 I would say that this issue is not about fish
14 versus food, because food and fish, well, fish are food.
15 I would say this very simply. It is about stewardship.
16 It is about a bigger picture that we need to consider and
17 that we need to keep at the forefront of our minds.

18 I am also a manufacturer's representative for
19 rod and tackle companies. And it's a \$2 billion a year
20 industry that has been depleted, not just because of
21 drought, but because of many reasons. Some would call it
22 mismanagement, some would call a lack of foresight, some
23 would call errors of our past. The opportunity we have
24 is now.

25 And I don't envy you. I do not envy you. I

1 have to make hard decisions. Like I have to choose how
2 to communicate to international people that come to
3 Yosemite and want to fish. And I have to not only avoid
4 crowds, but follow the law. And as a steward I make sure
5 not to pressure certain areas, because I don't want to
6 over fish populations. But you have to choose with the
7 facts and science and you're getting -- it's almost like
8 the bad kid in the choir that ends up in front of the
9 microphone. You hear all the sour notes of everybody's
10 agenda, screaming at you every day.

11 So what I would say is you need to parse out
12 the facts. Do what's best, because it's not anecdotal
13 that I look at my Steelhead Report Card and see --
14 because it's January 1st, or 3rd now and you have to turn
15 in your Steelhead Report Card every year -- and I'm a
16 steelheader. It's known as the fish of a thousand casts.
17 I looked at my report card this year and there was the
18 most zeroes I've seen. Zeroes representing days where
19 there was no catch. And that squarely rests on some of
20 the decisions that are in this proposal.

21 I would also suggest to look past some of the
22 lazy fact finding, is what I'm going to call it. You can
23 find out how many people caught fish. Guides like me
24 have to report that to Fish and Game every time we go
25 out. You can find out harvest records, which could give

1 you an idea of percentages as well. There's information
2 out there. I would suggest that not only you look at
3 increasing the flows, but look at a holistic plan to
4 restore the ecosystem. And to provide all people a
5 livelihood, because this is how I pay my mortgage. And
6 I've got four kids. They're looking at school.

7 Thank you very much for your time.

8 MS. CHARLES: Hello. My name is Cindy Charles.
9 And I'm the Conservation Chairperson for the Golden West
10 Fly Fishers for the last 16 years, and a former
11 Conservation Chair for the California Federation of Fly
12 Fishers. I am here today to support the proposal by the
13 State Water Board to increase the flows on these rivers.
14 This is our last, best chance to attempt to restore the
15 severely degraded tributaries of the San Joaquin.

16 I grew up in San Francisco, drinking Tuolumne
17 River water and learned to fish for salmon on fishing
18 trips with my father. These life-changing outings were
19 the reason for my degree in Zoology from UC Berkley. For
20 the last 20 years I worked in banking and finance. I can
21 understand both the science and the complex economics of
22 water. Climate change, population growth, and the switch
23 to permanent crops have placed increased demands on water
24 resources.

25 The Tuolumne, Merced and Stanislaus rivers have

1 always been my favorite rivers. My now adult son's first
2 fishing trip was on the Tuolumne. Some of the salmon I
3 caught with my father began their life in the spawning
4 gravels of these three rivers. It is not only family
5 farms that have a connection to these rivers. My family
6 has a multi-generation connection too. Fishing and
7 healthy abundant salmon are part of my family's life and
8 history. I fear a future without salmon to share with my
9 grandchildren.

10 I have fished the lower sections of the San
11 Joaquin tributaries for 25 years. I have been witness to
12 the diminished quality of the aquatic resources and seen
13 habitat degraded over many seasons and many water year
14 types. This rapid decline of these once great trout,
15 steelhead and salmon fisheries has occurred in all three
16 tributaries. The numbers of people seeking recreation in
17 natural areas is increasing annually, as is the economic
18 importance of these visitors.

19 The citizens of California, the same people who
20 sacrifice their water during periods of drought deserve a
21 chance to recreate on healthy, environmentally
22 functioning rivers. Rebalancing the beneficial uses of
23 these rivers is overdue. Do Californians deserve to live
24 in a place that is so degraded that salmon are just a
25 memory? No. They don't. Let's not trade our chance for

1 healthy, functioning river systems and the vibrant
2 ecosystems that they support for a salty snack that is
3 mostly exported.

4 I urge the State Water Board to stand firm on
5 the proposal to increase the flows of the San Joaquin
6 tributaries, to support the restoration of the Bay-Delta
7 system, which is so vital to so many species of wildlife
8 and not only fish.

9 I thank you very much for your time and your
10 consideration.

11 MR. O'ROURKE: Good afternoon, Madam Vice Chair
12 and Board members. I'm Sean O'Rourke and I'm a PhD
13 geneticist, working at UC Davis, in the College of
14 Agriculture and the Environment.

15 My research focus is salmon and steelhead
16 genetics. We work with state and federal agencies,
17 Native American tribes, other universities and anglers up
18 and down the West Coast from California, Oregon,
19 Washington, Canada, Alaska and also into Russia and
20 Japan. We obtain genetic samples from fish and we use
21 them to discover how fish populations are related and
22 what genetic mechanisms they have evolved to allow them
23 to thrive in different environments.

24 I love fish. I've been an avid recreational
25 angler all my life. I fish for salmon and steelhead on

1 the Sacramento, Feather, Trinity, Klamath, American, Eel
2 and the Tule rivers in California. I also fish the ocean
3 as often as I can. I bring friends, family, and students
4 in our department out fishing with me. Friends come to
5 fish with us from all over California, other parts of the
6 U.S. and even other countries.

7 I'm certainly not the only angler that would
8 appreciate having more salmon and steelhead in the
9 Central Valley where so many of us live. I help run a
10 fishing forum with over 37,000 members. So there are
11 many, many anglers who are interested in getting more
12 water for our fish. We all buy licenses, tackle, gear,
13 bait, fuel. I have three boats myself. Angling not only
14 provides significant economic benefits, but also a
15 quality recreational experience for individuals and
16 families in our state.

17 If there were increased salmon and steelhead in
18 the San Joaquin Basin, it could provide additional angler
19 opportunity and many of us would love to take advantage
20 of that opportunity. The San Joaquin Basin used to have
21 an epic run of a type of salmon called Spring Chinook.
22 From time immemorial, these fish would come up river
23 during the spring. And over the summer in cold, clear
24 pools high up stream, prior to spawning in the fall. Not
25 anymore. Due to water withdrawals and dams those fish

1 were wiped out. What's left in the basin are fall-run
2 Chinook and steelhead. And their numbers are holding on
3 by a thread. By providing higher flows, we can finally
4 hope to improve our salmonid runs. Many anglers believe
5 it's very simple to help fix the dire fish situation.
6 More water equals more fish.

7 And I just want to add recreational and
8 commercial anglers stand by family farmers. But when we
9 see vast oceans of corporate farms producing bumper crops
10 during droughts, towns without any water meters and lush
11 urban landscaping using imported water, many feel this is
12 an unjust situation. So I'll close by saying fish need
13 to have much more increased consideration about our water
14 allocation choices going forward. Perhaps we can look at
15 the Trinity River Record of Decision as a model
16 compromise for all users of the resource. Thank you for
17 your time.

18 VICE CHAIR SPIVY-WEBER: Thank you. Are there
19 any questions? Thank you very much.

20 I have four speaker cards, Jeanelle Steiner is
21 first. Is Jeanelle here?

22 MS. STEINER: Yeah, I'm here.

23 VICE CHAIR SPIVY-WEBER: Okay. So come on up.

24 Aaron Orsini, Gary Bobker, and Tricia Geringer.

25 (Colloquy re: people in attendance.)

1 VICE CHAIR SPIVY-WEBER: Go ahead.

2 MS. STEINER: First of all I want to thank you,
3 each one of you, for all that you have been through and
4 all that you're offering to this process.

5 My name is Jeanelle Steiner. And I'm a fourth
6 generation Californian and I'm an environmental educator
7 as a professional. And I took a vacation day in order to
8 put my word in for future generations, for all species.

9 While I appreciate that you're getting outcries
10 from all communities, and I feel for all those
11 communities, I urge you to, as human beings, to think of
12 the big picture here. Our ecosystems and long-term
13 sustainability is our highest objective here for the
14 health and well-being of everyone. So I urge you to
15 choose the maximum flow for the San Joaquin River and
16 it's clearly -- we clearly need to set a new standard for
17 what our water carrying capacity can be. And I have
18 faith that with the creativity that we have available to
19 us in California, that we can work together to come up
20 with creative solutions. So I think the human needs and
21 the economic needs will be a challenge. And I'd like you
22 to be awake to what's at stake, the potential extinction
23 of more species and at some point if pushed further,
24 possible ecological collapse.

25 An intact ecosystem that sustains the entire

1 delicate web of life and its long-term sustainability
2 should be the highest objective. Thank you.

3 VICE CHAIR SPIVY-WEBER: Thank you.

4 Aaron?

5 (Colloquy re: microphone setup)

6 MR. ORSINI: My name is Aaron Orsini and I am a
7 fishing captain out of Bodega Bay. I've been asked to
8 come here and speak and share my life from Dr. Bill
9 Bennett, with the US Davis Watershed Center and the Bay
10 Institute as well as Golden Gate Salmon Association.

11 It's been an interesting one listening to
12 everything that's going on here. I think all I can do is
13 kind of share my life and some of my experiences. I grew
14 up in Bodega Bay and both my parents were charter boat
15 fishermen. And I've seen the fishing out of Bodega Bay
16 go from very extensive, very expensive, lots of boats, as
17 much as ten head boats, to one head boat and a few
18 struggling six-pack businesses.

19 I grew up with my parents losing their jobs
20 repeatedly, actually not just once and finding new jobs,
21 but once and finding new boats and once and finding new
22 boats. I've seen my uncle who's a commercial fisherman
23 all my life go to different fisheries. I've seen all of
24 those collapse.

25 I personally have been struggling just the last few

1 seasons to make a living fishing.

2 I love the ocean. I love fishing and I love
3 salmon. I'm sorry, I can't convey more in just two
4 minutes. What has been done isn't enough. And it's been
5 poorly done. (Timer beeps.) You have an opportunity to
6 do something else. I'm not saying it's the right thing
7 or done perfectly, but it needs to be done differently.
8 People's lives -- I hope you listen to a lot of people
9 who have put a lot of time and effort and expertise and
10 have spent their lives creating some kind of alternative
11 plan.

12 Good luck making your decision.

13 VICE CHAIR SPIVY-WEBER: Thank you so much.

14 Gary?

15 MR. BOBKER: Gary Bobker, Bay.org. The Bay-
16 Delta Estuary deserves the kind of protection and
17 attention that we give to other national treasures like
18 the Chesapeake and the Everglades, but instead we're
19 letting it collapse and we're all to blame. And the time
20 to do something about it is long overdue. Salmonids are
21 not just -- this is not just about fish. It's about the
22 fact that salmonids are the indicator of a healthy
23 ecosystem. It doesn't take much for fish like salmon to
24 succeed. And the fact that salmon are either declining
25 or locally extinct is evidence of just how degraded this

1 ecosystem is and how beneficial uses are not being
2 protected. And that is your job.

3 There's overwhelming scientific evidence that
4 major increases in flow are the effective action to take.
5 It's a red herring to talk about flow versus non-flow,
6 because as you have heard time and time again the science
7 is that flows are -- it takes flows whether you do
8 habitat or predation measures or not. In fact, it takes
9 flows to make those be successful. It's also a red
10 herring to talk about unimpaired flows. That's a method
11 for providing flow conditions, which happens to be a good
12 one. But the real issues is what's the level of flow
13 you're going to provide? If you want to base it on the
14 best evidence we have about what makes salmon return,
15 positive recruitment at 5,000 CFS and doubling at 10,000
16 CFS, go ahead and do that instead. The water supply
17 impacts will probably be bigger, but you'll achieve the
18 end goal.

19 The water supply impacts are important to talk
20 about. I think it's also important to note that, as many
21 speakers have talked about, in many cases they're
22 exaggerated. In many cases they can be mitigated.

23 And with all due respect to the fine people in
24 the Central Valley, in the agricultural industry, I think
25 that some of those concerns are misplaced, that they're

1 surrogates for the many other issues that the
2 agricultural industry has to deal with, whether it's
3 trade policies or world markets. But water is actually
4 not the thing that is going to make or break that
5 economy.

6 I will end by saying that I went through the
7 last round of the major update of the Bay-Delta Plan in
8 the late '80s and '90s. It took nine years for a Board
9 that changed radically, because the members didn't last
10 long enough. It took nine years for the State of
11 California to adopt water quality standards. I never
12 thought that I would go through another period where I
13 thought it's going to take that long.

14 You're not going to have a rabbit pulled out
15 the hat by anybody else. It's up to you. You've taken a
16 long time. It's time to move to a decision expeditiously
17 and one that will protect the beneficial uses. Thank
18 you.

19 VICE CHAIR SPIVY-WEBER: Thank you.

20 And finally, Tricia Geringer.

21 MS. GERINGER: Good evening, Vice Chair and
22 Board members. Thank you so much for sticking out
23 through the evening. Tricia Geringer, Vice President
24 with Agricultural Council of California. We represent
25 over 15,000 farmers throughout the states. And our

1 farmers are producing locally grown, healthy products
2 like peaches, almonds, dairy products, apricots, raisins
3 and many other healthy nutritious items that our
4 population loves to put on their kitchen tables. And we
5 like to say that our members are closer to you than your
6 own neighbors, because their products end up on your
7 kitchen table and they're in your lunches.

8 I want to thank you for holding this hearing
9 and all of the December hearings and for continuing to
10 take in stakeholder inputs. And thank you also for
11 extending the written comment period to March 17, as the
12 Chair Marcus recently stated, in order to create
13 "positive opportunities" for engagement and negotiation,
14 which we could not agree with her more and we believe is
15 crucial going forward.

16 Our organization would like to express concern
17 over the impact of the proposal on dairy farmers in a
18 region that is a great contributor to California's vital
19 dairy industry. Our Council represents over 75 percent
20 of milk produced in California. And if, as the Appendix
21 G of the SED states, the proposal would limit, "the
22 economic feasibility of growing feed crops," this would
23 be very challenging news for the dairy industry, which is
24 already struggling as was previously stated by another
25 speaker.

1 And also you have heard, at I believe it was
2 the Modesto hearing, the industry is already in a very
3 strict regulatory environment. And this would be
4 incredibly challenging, increase costs and as mentioned
5 before could potentially cause dairy folks to leave. And
6 frankly no other state or nation can match the regulatory
7 compliance efforts of California's dairy community. So
8 we know we do it best here, so we would like to keep it
9 here.

10 It is also important to note that our state's
11 almond industry is deeply connected to dairy, through the
12 hulling and shelling market. So any disruption in the
13 dairy community also impacts almonds and that community
14 and all of those jobs.

15 I appreciate very much the conversation
16 pertaining to SGMA. And I know the Board is keenly aware
17 that there are many questions regarding the impact of
18 SGMA and we encourage those continued conversations and
19 we support that request for further documentation and
20 reports from your sister agencies in order to seek
21 further information that can be incorporated into the
22 analysis going forward.

23 We also support, and respectfully ask the Board
24 to work with local water leaders and officials, on non-
25 flow alternatives and support their comments to that

1 effect.

2 Finally, we urge the Board to continue to
3 engage those of us on the stakeholder side going forward
4 and prior to making any final decisions. Thank you so
5 much.

6 VICE CHAIR SPIVY-WEBER: Thank you.

7 Did I miss anyone who turned in a blue card and
8 I didn't call your name?

9 (No audible response.)

10 Okay. Thank you all for hanging in there with
11 your interest, cooperation and participation today, and
12 throughout the hearing.

13 Before I close, are there any -- you mentioned
14 that you wanted to make a closing statement and if you
15 two are interested, now is the time.

16 MS. D'ADAMO: Thank you. The hour is late.
17 And I first of all want to thank my fellow Board members
18 for their patience. I know I've had a lot of questions
19 throughout and I am not usually so willing to take up
20 precious time. But I've spent a lot of time on this and
21 I'm going to use -- since this is it, it's going to go
22 back to staff and then we'll have those meetings and I
23 won't get a chance to talk to you again -- so I'm going
24 to use this time to again point out some of the main
25 concerns. And I know that you've already heard about a

1 lot of these concerns, but I would like to put it into
2 some better context here.

3 So first of all, we all know that we're
4 required to balance and we've been talking a lot about
5 the sweet spot. And I'll just say that despite years of
6 effort, and a lot of effort from staff, I don't think
7 that what they're presenting to us is the sweet spot.
8 And that is my own opinion. That's my conclusion and I
9 know that you all may feel differently, but I just want
10 to let you know why I don't think we've hit the sweet
11 spot.

12 There've been a lot of discussions about
13 settlements. And that settlements is what usually comes
14 out of these reports, because it is a big challenge to do
15 a Water Quality Control Plan. And in the past what we've
16 seen is that staff will put out a document and that will
17 help drive the discussions toward settlement. And I
18 absolutely agree with that process. But I think what's
19 happening here is that staff has put a target out that is
20 claiming to be balanced. And because it's imbalanced,
21 that is what is going to drive people to try and avoid
22 something that is so terribly impactful.

23 And so I'm just pointing this out to say that
24 where I think we all ought to end up with, is where a lot
25 of the commenters have encouraged us to look closely at

1 settlements. And to continue to continue the dialogue,
2 get more information, so that we can end up with
3 settlements.

4 The concern that I have is that if we don't get
5 out some additional information and if we don't show some
6 willingness to move the mark, that it is going to make
7 those settlement discussions very unlikely, because we
8 have pushed it to the limit that we've got some folks
9 that I'm very concerned that they'll just pack their bags
10 and go to court.

11 And so the areas that I've been focusing on is
12 not to say that these rivers don't deserve our attention.
13 It's not to say that these rivers shouldn't have
14 additional flow. I think we need to give it more
15 attention, because I feel so strongly that we need to
16 have a comprehensive package. And that flow alone isn't
17 going to get us the benefits that staff is saying.

18 In fact, we had the NGO community on the first
19 day of these hearings on the 29th, say that there are
20 questionable benefits as to what our staff is saying on,
21 say for example, floodplain. And so if you look at the
22 2010 Flow Criteria Report, and if we just focus on flow,
23 you need to have a lot of flow in order to achieve the
24 higher benefits, according to some. And because that
25 would be such a challenge we've got to -- you know, there

1 are other options for us to look at here as far as the
2 combination of flow and non-flow measures.

3 And looking at sort of the key areas that I've
4 spent a lot of time with the irrigation districts, I've
5 spent a lot of time out in the community. And what is
6 really, I think you know you keep hearing this over and
7 over again, the areas where we keep hearing the greatest
8 challenges would be June, lack of dry year relief, SGMA
9 and the carryover storage requirement.

10 So let's just take carryover storage. I
11 actually think carryover storage is a key tool that we
12 probably need to have as part of the package. Now these
13 irrigation districts can come to us with settlements that
14 could include carryover storage as part of a voluntary
15 agreement. But if we have it in a plan, that I fear is
16 going to cause the irrigation districts to fight and go
17 to court instead of working with us on a comprehensive
18 settlement that would include carryover storage.

19 As far as June and dry year relief, I have been
20 pushing for these things in conversations with staff for
21 quite some time. And what -- I have to be honest --
22 what's frustrating is instead of getting some information
23 about, for example on June, what we get is cherry-picked
24 wet years that show fish moving in June. And I've
25 learned a lot through this process. I've learned there

1 are fish moving in June. And I think that information is
2 helpful, but let's look at all year types. Let's look at
3 all year types. Let's look at the rotary screw trap
4 information. I think we should have that information, so
5 that we can come to a decision as to whether or not what
6 is before us is balanced.

7 And then as far as dry year relief, same thing.
8 I remember from the hearing on the 29th in November, we
9 asked for an overlay of successive dry years, for example
10 the drought. And what we get is averages. And if you're
11 out there trying to run a farm an average doesn't make a
12 difference. What matters is how much water do you get
13 this year. And so I think we need to get the information
14 of what it would look like with successive dry years.

15 And staff said that there wouldn't be years
16 that are at zero. Well, that just doesn't make sense,
17 because I know that during the drought, even Merced
18 Irrigation District, they had zero. So something's not
19 quite connecting here. I think we need to spend a little
20 more time on that so that we can get information on what
21 successive dry years look like. And I know there've been
22 other comments as well on dry year relief, so I think it
23 would be helpful for staff to come to us with some
24 alternatives that we could look at with respect to
25 critically dry years.

1 And then on the fish benefits, I'm looking
2 forward to getting the updated information from the
3 Department of Fish and Wildlife on SalSim. And it looks
4 like staff even though is not relying on SalSim, made an
5 attempt to make some adjustments. But then also
6 indicating that it's relying on temperature benefits and
7 floodplain analysis. I think we need to get more
8 information on that.

9 Temperature benefits in particular, looking at
10 the percentage of increase I don't know what that means.
11 I think we need to have some information on exactly what
12 temperature improvements are we likely to see. And the
13 fish benefit, in particular, I think merits having a
14 workshop. We did hear from the NGO community as well
15 that they're interested in having biological objectives.
16 And I know it would be a big challenge to go back and
17 redo the document to get very specific targets. But one
18 way to get started is to have more information on the
19 actual benefits and whether that's with improved CalSim
20 temperature benefits, floodplain benefits.

21 And then the last thing is SGMA. I think it's
22 just disingenuous for us to say that well gee, we're
23 looking at this from a programmatic level. And that at a
24 future time when SGMA is implemented, that's when they
25 can look at these issues with respect to the

1 disadvantaged communities. And that it would just be too
2 speculative.

3 I think one commenter said there's a lot of
4 things that we have in here that we went further from
5 speculation, like on temperature and floodplain. So why
6 not on SGMA? It's a priority for this Administration and
7 for the Board and I think that communities deserve more
8 and we deserve more. We deserve more information on what
9 this project would look like once we have SGMA. And so I
10 think working with the Department of Water Resources and
11 the irrigation districts hopefully we can get some
12 additional information.

13 And really what I'm looking for is in these key
14 areas, is getting more information to us, so that we
15 could be in a better position to be able to determine
16 whether or not what staff has brought forward is balanced
17 or whether we should be making some additional
18 adjustments.

19 So thanks for the opportunity to give you these
20 comments and for bearing with me throughout all these
21 hearings.

22 VICE CHAIR SPIVY-WEBER: Not a problem.

23 Go ahead.

24 MR. MOORE: Great, thank you DeeDee. Those are
25 well organized and a logical outgrowth of the many

1 thoughtful comments we've received. And then I think
2 you've stimulated some excellent discussion through the
3 five days plus that we've been engaged with stakeholders
4 on these issues.

5 Let me just say thank you to everyone who spent
6 a significant amount of time preparing your remarks and
7 traveling and attending these hearings. I hope that
8 you've learned as much as we have in terms of insight and
9 nuance into water management and how many moving parts
10 there are. And how many human lives, as in everyone, is
11 touched by water in different ways.

12 Some insightful comments today about how we
13 related to water a little differently, depending on where
14 we're from. You know, how we treat it and how it's
15 important for us to respect mutually each other's
16 perspective on how water figures into their lives.
17 That's a key point. And I think moving forward, I hope
18 that we engender a culture of respect around folks'
19 relationship with water. And then also challenge
20 ourselves to evolve that relationship with water.

21 It's pretty exciting what we've even been able
22 to discover in the last 10 years as a Water Board system
23 as we look at not just in silos of water quality, but
24 looking at holistic water resources, multi-benefit type
25 approaches, and the type of projects that have gone in

1 the ground. They're really great and they represent
2 partnerships across many backgrounds and perspectives.

3 And just the ownership of these innovative
4 infrastructure projects. The infrastructure can be
5 natural. It can be concrete and steel. In the end,
6 we're getting better in California at doing this and I
7 hope that this process can engender that culture to keep
8 it going.

9 So I've provided about eight pages, nothing too
10 crazy or fancy or technical, to staff about some of the -
11 - some key questions we should answer that have been
12 reasonable questions folks have brought up. And I won't
13 go over those eight pages. I'm going to take a little
14 time here. Like Deedee says, this is a big issue, and as
15 big as it gets. And here we are, the opportunity for at
16 least the four of us to chat, and Felicia's out there
17 somewhere. And so we can kind of go back and forth a
18 little.

19 Maybe I'll have a chance to respond to some of
20 those good points you've brought up. You know, you've
21 heard me bring up this point many times about taking the
22 concept of a linear unimpaired flow percentage, which is
23 as you point out the heart of the existing 1995 Bay-Delta
24 Plan, however more course that is compared to this
25 proposal. And is there a way we can, in response to the

1 comments about evaluating a reasonable range of
2 alternatives, should we get a little more sophisticated
3 looking at critical years?

4 And are we comfortable making a proposal about
5 working with the fish agencies, the water users, in
6 crafting a management approach during critical years that
7 maintains a reasonable level of protection, but doesn't
8 have a severe water supply impact. Because it seems that
9 is the rub. That is the crux of the conflict is the
10 concern. Like TID modeled a strict 40 percent unimpaired
11 flow and saw just the last couple of years, which were
12 critical in the San Joaquin Basin, how that might have
13 led to no deliveries. And that seems like an outcome we
14 should avoid.

15 You know, the 20 to 300-acre farms in that area
16 are a critical fabric of our California culture. It's a
17 sustainable culture, because it co-existed with healthy
18 fisheries for generations. And it's only been the last
19 couple of generations where we seem to have bumped up
20 against sustainability on the ecosystem side.

21 So let's respect that and think of some side
22 boards, maybe in a response to comments on how we can
23 address those situations, which you even brought up about
24 from the prospective of the San Francisco Bay Area
25 municipal water supply perspective. It's really those

1 consecutive dry years in critical conditions where they
2 run into potentially irreversible type impacts. So I
3 want us to think long and hard about that idea.

4 I'd like a little more explanation why the
5 American River, Yuba River, Battle Creek, other
6 tributaries in the Central Valley have better salmon
7 returns and indicators than the Lower San Joaquin
8 tributaries, when we compare those two before and after
9 periods. The 1967 and '91, which is that period we're
10 using as a basis for salmon doubling and then the more
11 recent decades. You know, is this related to -- what
12 factors are at play? Are there enforceable flow
13 objectives? Is the ongoing working group arrangement,
14 perhaps with required deliverables, institutional
15 framework in place in these locations that creates
16 durable outcomes? And what kind of a package of flow and
17 non-flow measures are present and is state assistance a
18 part of those? You know, I'd like a little bit more
19 insight into what works and how we can replicate that.

20 And acknowledging Board Member D'Adamo's
21 concern I don't want this process to drive folks, with
22 venerable senior water rights, into a strictly defensive
23 posture. I want this to be a partnership and so I don't
24 want to push the proposal so hard that we're driving
25 folks away instead of to the table to solve problems.

1 I think the points about disadvantaged
2 communities are important. So in terms of having some
3 answers they don't have to be the -- as we discussed
4 earlier -- the SED, it's not our responsibility to
5 predict the future with a great granularity. But I think
6 that's an area where we need to provide additional
7 insight as to where the vulnerable areas in the project,
8 the plan area are with respect to dependence on
9 groundwater.

10 And from a water infrastructure perspective I'm
11 concerned about the comments on surface water treatment.
12 And we've talked about this. I've talked to staff about
13 this. And we just need to have an answer to that
14 question about the assets that we're actually helping to
15 fund and our Drinking Water Division wants to see happen
16 to for water quality. And our Division of Financial
17 Assistance is putting money on the table to make these
18 investments.

19 We just need to have a little bit more of a
20 refined response about where will that be a problem or
21 where is there flexibility built in? I feel that the
22 testimony has been a little exaggerated. But I'd like to
23 see more facts on the issue. I don't think it creates a
24 \$55 million stranded asset, but there may be situations,
25 scenarios where the envelope might be being pushed too

1 far.

2 You know one thing that came up a little bit
3 today was about water quality. I used to work at the
4 Regional Board level and it's not trivial to me that
5 temperature is an impairment right now. These rivers are
6 impaired due to temperature. And when you look at our
7 TMDL implementation around the state, a little more
8 smarter targeted management of flow, ends up being a real
9 important tool for temperature management. So that's not
10 lost on me. That's an area that needs -- it's a problem
11 that's been formally identified and it's related to what
12 we're talking about. And so the temperature benefits, we
13 have to look at that fairly seriously.

14 But there's also other water quality benefits
15 that we haven't talked about. We've talked about the
16 fish benefits, the floodplain. But this issue of a more
17 sustained healthy river system that's a little more
18 charged year after year, is going to have water quality
19 benefits related to nutrient cycling and potential
20 harmful algae blooms. I'd like to know a little more.

21 We heard today about the bio-assessment work.
22 Some insight about what the bio-assessment metrics in
23 these systems tells us today about water quality, because
24 bio-assessment's a great integrator about water quality.

25 And I'm not sure what kind of historic

1 information we have that we can compare it to, but you
2 hear me bringing this issue up a lot. Something was
3 working a lot better not that long ago in the, say the
4 '70s and the '80s. What was the management regime then
5 that was producing more a productive system that we're
6 not seeing now? Because the physical alterations, people
7 rightfully point out, most of them were already done at
8 that point. And something's been happening in terms of
9 the dynamics of the flow regime. Many have commented
10 that the wild salmon are gone on the Lower San Joaquin or
11 there's a carrying capacity. We couldn't have more fish
12 if we tried. I just think we have to answer those
13 questions. What's possible? And we look at the historic
14 record for that.

15 I want us to do a good job of answering the
16 question about -- as I pointed out with the surface water
17 treatment advancements that we support, we don't want to
18 undermine those. Similarly, we don't want to undermine
19 the work of our FERC relicensing efforts. Let's just
20 make it clear in how this proposal connects to those and
21 how it builds on it or fills gaps that you would identify
22 that the FERC relicensing flows don't address. And how
23 responsibility for meeting the overall flow proposal
24 doesn't necessarily have to rest solely on the FERC
25 relicensing entities. Because that's an issue that's

1 come up and is a good concern that we need to provide
2 answers.

3 It was good to hear from the recreational
4 panel, recently. And I think when you talk about the
5 effects on disadvantaged communities, there's a drinking
6 water effect that we're concerned about, but there's a
7 recreational opportunity effect. And I'd like us to
8 answer that question that came up in Modesto about how
9 the water quality of low flows in the summer or in the
10 spring might be affecting the opportunities for
11 disadvantaged communities, low-income folks to enjoy
12 recreational opportunities or strengthen families, keep
13 kids from going to lives of crime and drugs and that sort
14 of thing.

15 There was a question about non-flow measures.
16 Does it include dam removal? I don't know if that's a
17 viable issue in the Tuolumne. I'm interested in the full
18 range of non-flow measures.

19 And there was a predator removal pilot on the
20 issue of predation in the Mokelumne River that was
21 brought up during the Modesto hearing that sounded
22 interesting. I'd like to know more about the viability
23 of those methods as a package within the non-flow
24 measures that might be possible.

25 So there's so much to cover I can't give it all

1 enough credence. I appreciate everyone's passions. Like
2 I said in my opening remarks, I respect those passions,
3 that commitment to stewardship and problem solving. We
4 didn't introduce this, I don't believe, as any kind of
5 effort to take any water by any means. I think what I
6 wanted to maybe distill in everyone's minds is my top
7 goal is taking the current Bay-Delta Plan and improving
8 it. It hasn't worked. We tried.

9 It was an experiment where we put the sole
10 responsibility for meeting the aquatic life beneficial
11 uses on the State and Federal water projects. We tried
12 the experiment for over two, three decades now. It
13 hasn't worked. Having a flow requirement Vernalis for
14 the entire complex San Joaquin Basin. We gave it a shot
15 and tried to make it work with New Melones releases. And
16 we weren't able to pull it off.

17 We did learn some things along the way. And
18 that relates to Fish and Wildlife's presentation today is
19 that there was more flow in the Stanislaus, because of
20 this experiment, using the Central Valley project. And
21 so we do see some scientific information there that we
22 can learn from and incorporate into a joint fact finding
23 solution. But it didn't work.

24 So, I think the spirit of the proposal is to
25 roll up our sleeves together, senior water rights, junior

1 water rights, all interests in the healthy rivers and
2 share in the solution. And figure out what can we live
3 without in every tributary in the Sacramento-San Joaquin
4 system to make sure that there's healthy rivers for
5 future generations. It's a shared solution, a shared
6 responsibility, and we'll respect senior water rights all
7 the way. But we have to roll up our sleeves together,
8 because the experiment we tried with the previous Bay-
9 Delta Plan, it can't work. And the science shows that.

10 So I look forward -- and the idea of voluntary
11 settlements, it's great but I support the State Water
12 Board moving forward with the proposal with good
13 modifications to make sure people don't get left holding
14 the bag, have that uncertainty that affects the family
15 farmers. But we have to move forward, I think, to make
16 sure that people have motivation to come up with those
17 creative solutions. And it's our responsibility to be in
18 there with them rolling up our sleeves, learning along
19 the way.

20 So thanks to everyone for your thoughtful
21 input. And we certainly are taking it very seriously.
22 And look forward to continue to work with you.

23 MS. DODUC: Thank you. I will also echo Board
24 Member Moore's gratitude to everyone for participating in
25 all the hearings, for reading all the materials, for

1 providing your stories, your suggestions, your concerns.
2 And definitely we will, like Board Member Moore said,
3 we've all learned a lot during these hearings. And
4 certainly I, like my colleagues, have a list of issues
5 that we'll be following up with staff on. And I'm sure
6 it will grow, once we receive your written comment
7 letters. So I won't go into all of that today.

8 I may also concur with a comment Board Member
9 Moore made about respecting each other's perspectives.
10 And I think one of the strengths of this Board is that we
11 have five Board members from different backgrounds,
12 different expertise, different perspectives. And we all
13 respect each other's perspectives.

14 We don't often -- well, we don't always agree
15 and we should not. But I think the discussions we've
16 had, the input that each Board member has provided,
17 ultimately will allow us to move forward, I think, with a
18 stronger decision that this Board will make. I don't
19 know what that decision will be. I don't know what
20 decision I will be making, because there's just a lot of
21 information yet that we need to consider. But I think
22 amongst the five Board members, I have a unique
23 perspective in that much has been talked about the 1995
24 Water Quality Control Plan, the last major update to the
25 Bay-Delta Plan, which has not been successful as Board

1 Member Moore pointed out. Well, I will confess that I
2 was actually on the Board staff as an engineer and worked
3 on the 1995 Plan that was eventually approved by the then
4 State Water Resources Control Board.

5 And my supervisor at the time was of now
6 Executive Director Tom Howard, who was in charge of the
7 Bay-Delta section at the time. And I'm going to
8 paraphrase something he said to me around 1995, so it was
9 a long time ago, but it was significant enough that I
10 remember at least the context of what he was trying to
11 convey to me. And that was it was the Board staff's job
12 to do their best technical and policy analysis to gather
13 the most relevant data that is existing. And to bring
14 forth those analyses and those recommendations to the
15 Board, giving in mind all the challenges involved in
16 terms of incomplete information, in terms of lack of
17 resources to carry out maybe some of the analyses that we
18 would like, in terms of the various pressures that
19 accompany any major water decisions in California. It's
20 the staff's job to do their best in gathering that data,
21 in providing the analysis, and presenting it to the
22 Board. But it is the Board members' responsibility to
23 make that decision.

24 And my concern is that the Board staff has
25 spent quite a bit of time analyzing data, preparing

1 information, presenting us with their recommendation.
2 And I agree, it's not a sweet spot. I don't, however,
3 would argue that it's not the staff's job to find that
4 sweet spot. It's the staff's job to present us with
5 their best analysis and recommendation. And it's our job
6 to make the best decision possible, given the information
7 that we have.

8 And while I would love to have more data -- I
9 think we would always like to have more information, more
10 complete analysis, better economic information, better
11 benefits analysis -- in terms of what these actions will
12 result in. And while we all, I think are aware of what's
13 at stake not just for the fisheries and the ecosystem,
14 but for our growers, for cities, I mean for all of us in
15 terms of these decisions I would caution us to -- I agree
16 with Board Member Moore -- to not continue to be the
17 bottleneck in this very important effort.

18 There will never be a perfect solution. There
19 will never be complete data and analysis for us upon
20 which to make decisions. We have to make decisions based
21 on what is best available at the time, based on our
22 understanding, based on our hopes and expectations, based
23 on all the different perspectives that is provided to us.
24 And I would say, with all due respect to Board Member
25 D'Adamo's comment, that it hasn't been a staff proposal

1 that has led to, I think some of the major settlement
2 agreements in the water rights arena, but actually Board
3 decisions for better or for worse that have led to, for
4 example, the Yuba Court. I think was one of the
5 successful agreements that have been implemented in
6 California.

7 So again, I would urge my colleagues that yes,
8 there are questions that still need to be answered. That
9 the input that we are receiving from these hearings and
10 from the written comments will ultimately lead to more
11 discussions by us, but ultimately I would encourage us to
12 move forward with adoption of a proposal, I mean of a
13 Water Quality Control Plan, as soon as possible this
14 year. Because I think we're running out of time.

15 And it's not just time, in terms of time for
16 the ecosystem, but also time for all of those who are
17 being impacted by the lack of uncertainty associated with
18 us not making a decision, not having a Water Quality
19 Control Plan in place, not having a set of standards and
20 objectives in place. So we do have that responsibility,
21 as Board members, to make the difficult decision.

22 The late, great Don Maughan, who was Chairman
23 of this Board for the longest time, and who was Chairman
24 when I first joined the Board staff, called it a
25 superhuman task. And it truly is. But it's not going to

1 be made any easier by delaying decisions waiting for a
2 sweet spot or a complete information that will never
3 come.

4 So it's a hard task. And I have faith in all
5 of us. I have faith in everyone who's participating in
6 this effort, to make our best decision possible, our best
7 effort, our best step towards providing as balanced a
8 solution as we can with the data that we have. But also
9 recognizing that we cannot take years and years in order
10 to take that next step.

11 MS. D'ADAMO: Just because I think we should
12 use this as a chance to have a dialogue a little bit
13 here, I'm not proposing that we take years and years. I
14 think there's a lot of information that is readily
15 available. And I'm talking about months, using the time
16 with the extended comment period, to get this information
17 out. And I appreciate, Les, what you have said earlier,
18 that a lot of this is in the SED. I think just calling
19 out some of these areas where you've seen themes to pull
20 it out of the SED, so that you can provide it to us. I
21 think a lot of the information probably is already in the
22 SED.

23 And I agree this is not -- it wouldn't be staff
24 expected to be driving these settlements. It'll be Board
25 action. But it's also, I think, incumbent upon us to be

1 looking at what can best drive those settlements. And
2 just not to go back and reiterate, but just looking at
3 one item in particular, carryover storage. Including
4 that in a Water Quality Control Plan will be very
5 challenging. But through settlements, it's absolutely
6 possible.

7 It's no different than the non-flow. I think
8 what we've heard over and over again is that really flow
9 alone isn't going to do it. We need additional flow, but
10 we need some action on non-flow measures. And so what's
11 the best way to accomplish that? Settlements.
12 Settlements, just like carryover storage I think can best
13 be accomplished through settlements.

14 So what I'm looking for is a way for us to help
15 drive this discussion instead of being silent, as we have
16 been, over a period of years, because we needed to give
17 staff the opportunity. Now I think it's important for us
18 to weigh in during this interim period to help focus, to
19 help better focus, the discussions and help to provide a
20 path towards settlement.

21 VICE CHAIR SPIVY-WEBER: Thank you. Thank you
22 Board members, definitely thank you.

23 And thank you, the public who stayed to listen
24 to this, because I think you have been given a glimpse as
25 to the kinds of discussions that we will be having over

1 the next several months. And I hope -- I agree -- it
2 should not be the next several years.

3 I want to thank you for the time that you have
4 spent trying to help point us in the right direction on
5 this issue. Not just at this hearing, but at all your
6 preparations for the hearings. Your written comments as
7 well. And there is still time to put in written
8 comments, March the 17th is the deadline. So I urge you,
9 even if you have said things here, that you put those
10 things in writing. And they don't have to be long.
11 In fact if they're long, it gets even more difficult.

12 If they are short and we have bullet points,
13 that's perfect, perfect. Because we do understand what
14 it is you're talking about. You do not have to explain
15 it to us. We absolutely get it. And we take it
16 seriously. So the better you are able to put your ideas
17 into bullet points and just fill one piece of paper, one
18 side of one piece of paper, that will be wonderful.

19 The Board will take oral comments of what we've
20 heard over the last five days of this hearing, which have
21 taken place over the last month or a little more than a
22 month, as well as the written comments that we receive.
23 And will consider them in the preparation of the final
24 SED. If you have further comments you may submit them by
25 noon, noon, that's 12:00 o'clock, noon, on Friday, March

1 the 17th. I can't tell you how many times people say,
2 "Oh, I thought it was the end of the day." No, it is
3 noon.

4 Once we have certified -- we have the certified
5 transcript from the court reporter for the entire five-
6 day hearing we will post it on our website. You may
7 continue to follow this project on our website and all
8 future notifications will continue to be sent out on the
9 Bay-Delta notices email distribution list. And if you're
10 not on that list and want to be on that list, let Jeanine
11 know.

12 The Board anticipates that the final SED and
13 revised Bay-Delta Water Quality Control Plan will be
14 completed by this summer. However, the timeline will
15 depend on the comments received. Therefore, at a future
16 Board meeting the Board will consider whether to approve
17 the final SED and revised Plan, so there are many steps
18 yet to go.

19 So this is not the end. This is the end of one
20 phase that will --

21 UNIDENTIFIED SPEAKER: Phase 1.

22 VICE CHAIR SPIVY-WEBER: Yeah, Phase 1 of Phase
23 1.

24 And with that I want to thank you for your time
25 and the hearing is now over. Thank you.

1 (Whereupon, at 6:05 p.m., the hearing was adjourned and
2 the five-day hearing was concluded.)

3 --o0o--

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

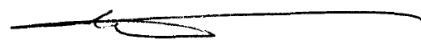
25

REPORTER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 3rd day of January, 2017.




PETER PETTY
CER**D-493
Notary Public

TRANSCRIBER'S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of February, 2017.



Myra Severtson
Certified Transcriber
AAERT No. CET**D-852